DUD RARY
NAVAL I ATE SCHOOL
MONTER LIFORNIA 93943

NAVAL POSTGRADUATE SCHOOL
Monterey, California

THESIS

MARITIME OPTIONS FOR THE FUTURE-
THE MEANS TO REVITALIZE
THE U.S. MERCHANT MARINE

by

Ronald C. Hessdoerfer

December 1984

Thesis Advisor: D.C. Boger

Approved for public release; distribution is unlimited.

T218343

Unclassified

SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

REPORT DOCUMENTATION PAGE		READ INSTRUCTIONS BEFORE COMPLETING FORM
1. REPORT NUMBER	2. GOVT ACCESSION NO.	3. RECIPIENT'S CATALOG NUMBER
4. TITLE (and Subtitle) Maritime Options For The Future- The Means To Revitalize The U.S. Merchant Marine		5. TYPE OF REPORT & PERIOD COVERED Master's Thesis December 1984 6. PERFORMING ORG. REPORT NUMBER
7. AUTHOR(s) Ronald C. Hessdoerfer		8. CONTRACT OR GRANT NUMBER(s)
9. PERFORMING ORGANIZATION NAME AND ADDRESS Naval Postgraduate School Monterey, California 93943		10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS
11. CONTROLLING OFFICE NAME AND ADDRESS Naval Postgraduate School Monterey, California 93943		12. REPORT DATE December 1984 13. NUMBER OF PAGES 115
14. MONITORING AGENCY NAME & ADDRESS(if different from Controlling Office)		15. SECURITY CLASS. (of this report) 15a. DECLASSIFICATION/DOWNGRADING SCHEDULE

16. DISTRIBUTION STATEMENT (of this Report)

Approved for public release; distribution is unlimited.

17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report)

18. SUPPLEMENTARY NOTES

19. KEY WORDS (Continue on reverse side if necessary and identify by block number)

Merchant Marine, Strategic Sealift, Sealift, Maritime Policy, Shipbuilding, Maritime Legislation

20. ABSTRACT (Continue on reverse side if necessary and identify by block number)

This study examines current options facing legislators and policy makers who make decisions regarding the United States merchant marine and its related industrial support base, the shipbuilding industry. Included is a brief history of the merchant marine and the effects of past legislation, leading to the current environment faced by the members of the maritime industries. A brief review of the current government programs in the area of strategic sealift is

DD FORM 1 JAN 73 1473 EDITION OF 1 NOV 65 IS OBSOLETE

S/N 0102-LF-014-6601

Unclassified

SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

addressed as well. The analysis includes the opinions and impressions of various representatives of the maritime industry, shipbuilders and ship operators, as well as government officials. This study culminates with a discussion of the current options being addressed in Congress. Conclusions and recommendations are drawn based on the author's findings and opinions.

Approved for public release; distribution unlimited

Maritime Options for the Future- The Means to Revitalize the U.S. Merchant Marine

by

Ronald C. Hessdoerfer
Lieutenant Commander, United States Navy
B.A., Miami University, 1972

Submitted in partial fulfillment of the
requirements for the degree of

MASTER OF SCIENCE IN MANAGEMENT

from the

NAVAL POSTGRADUATE SCHOOL
December 1984

DUDLEY KNOX LIBRARY
NAVAL POSTGRADUATE SCHOOL
MONTEREY, CALIFORNIA 93943

ABSTRACT

This study examines current options facing legislators and policy makers who make decisions regarding the United States merchant marine and its related industrial support base, the shipbuilding industry. Included is a brief history of the merchant marine and the effects of past legislation, leading to the current environment faced by the members of the maritime industries. A brief review of the current government programs in the area of strategic sealift is addressed as well. The analysis includes the opinions and impressions of various representatives of the maritime industry, shipbuilders and ship operators, as well as government officials. This study culminates with a discussion of the current options being addressed in Congress. Conclusions and recommendations are drawn based on the author's findings and opinions.

DUDLEY KNOX LIBRARY
NAVAL POSTGRADUATE SCHOOL
MONTEREY, CALIFORNIA 93943

TABLE OF CONTENTS

I. INTRODUCTION ----------11

A. BACKROUND ----------11

B. INTEREST AND PURPOSE ----------11

C. THE NATURE OF THE PROBLEM ----------12

D. ASSUMPTIONS ----------13

E. ORGANIZATION ----------14

II. HISTORICAL REVIEW OF LEGISLATION ----------15

A. EARLY EVOLUTION AND DEVELOPMENT OF THE U.S. MERCHANT MARINE ----------15

B. THE GOLDEN YEARS - 1789-1850 ----------16

C. THE CIVIL WAR TO WORLD WAR I ----------17

D. EARLY TWENTIETH CENTURY LEGISLATION, 1900-1935 -19

III. MODERN TIMES - THE 1936 ACT TO THE PRESENT----------23

A. DIRECT SUBSIDIZATION ----------24

1. Title V-Construction Differential Subsidy (CDS) ----------24

2. Title VI-Operating Differential Subsidy (ODS) ----------26

B. INDIRECT SUBSIDIZATION ----------27

1. Title XI - Federal Ship Mortgage and Loan Insurance Program ----------27

2. Title XII - War Risk Insurance ----------28

3. Cargo Preference ----------28

C. OTHER PROVISIONS ----------29
D. THE MERCHANT MARINE: 1936-1984 ----------30
1. The Merchant Marine Act of 1970 ----------32
2. The 1980's and the Reagan Administration ---34
a. The Omnibus Budget Reconciliation Act of 1981 ----------35
b. The Shipping Act of 1984 ----------39
E. DISADVANTAGES OF THE U.S. FLAG ----------39
1. The Shipbuilding Aspect ----------40
2. The Shipowners/Operators Aspect ----------46
IV. SEALIFT AND NATIONAL DEFENSE ----------51
A. SEALIFT - A FUNDAMENTAL STRATEGY ----------51
1. Shipping Requirements ----------53
2. Shipyard Requirements ----------55
B. MILITARY SEALIFT COMMAND - THE SHORT TERM FIX --58
1. Maritime Prepositioning Ships (MPS) --------58
2. Near Term Prepositioning Force (NTPF) ------59
3. Fast Sealift Ships ----------59
4. National Defense Reserve Fleet (NDRF) / Ready Reserve Force (RRF) ----------60
5. Other Enhancement Initiatives ----------62
V. LEGISLATIVE PROPOSALS ----------63
A. THE REAGAN ADMINISTRATION'S PROPOSALS ----------65
1. Foreign-Build Option ----------66
2. Eligibility for Government Cargoes ---------66
3. Administrative Reform of ODS ----------66

4. Foreign Investment ----------67
5. Duty on Repairs ----------67
6. Reduced Regulation ----------68
7. Rate Regulation and the Domestic Trade -----68
B. OTHER LEGISLATIVE PROPOSALS ----------69
1. Foreign-Build and Capital Construction Fund ----------69
2. An Energy Conservation Program ----------70
3. A Maritime Redevelopment Bank ----------70
4. The Competitive Shipping and Shipbuilding Act of 1983 ----------71
C. CONGRESSIONAL BUDGET OFFICE OPTIONS ----------74
1. Option I: Subsidies ----------77
2. Option II: Cargo Preference ----------79
3. Option III: Direct Government Procurement -79
4. Alternatives on the Options ----------80
5. CBO Conclusions ----------82
VI. INDUSTRY OPINIONS ----------83
A. BACKROUND ----------83
B. PRIORITIES - ONLY ONE: PROFIT ----------84
C. PROPOSED LEGISLATION ----------87
1. Subsidies ----------88
2. Cargo Preference ----------89
3. Government Procured Shipping ----------91
D. NATIONAL SECURITY AND THE MERCHANT MARINE ------92

VII.CONCLUSIONS ----------95

A. GENERAL ----------95

B. EVALUATION OF LEGISLATIVE OPTIONS ----------96

1. Subsidies ----------96

2. Cargo Preference ----------100

3. Direct Government Procurement ----------102

C. REVITALIZING THE MERCHANT MARINE ----------103

1. Shipbuilding versus Ship Operating ----------103

2. Commercial versus Military Usefulness ------104

3. Summary ----------107

LIST OF REFERENCES ----------110

INITIAL DISTRIBUTION LIST ----------114

LIST OF TABLES

3.1 SECTION 615 APPROVALS AS OF SEPTEMBER 30,1982----------37

3.2 MARITIME SUBSIDY OUTLAYS- 1936-1983----------38

3.3 1983 SHIPBUILDING COSTS, U.S. AND JAPAN (in millions of dollars)----------41

3.4 SHIPYARD COST COMPARISONS----------42

3.5 NAVAL VESSELS ORDERED FROM PRIVATE YARDS BY CALENDAR YEAR (Ships of 1,000 Light Displacement Tons and Larger)----------43

3.6 TYPICAL CONTAINERSHIP ANNUAL CREW COSTS, U.S. AND FOREIGN MANNING, 1983----------47

3.7 ANNUAL ESTIMATED OPERATING COST FOR 30,000 DEADWEIGHT TON CONTAINERSHIP----------48

4.1 MILITARILY USEFUL SHIPS IN THE U.S.-OWNED FLEET: SHIPS OF 1,000 GROSS TONS AND OVER AS OF 1 JANUARY 1984----------54

4.2 COMPARISON OF CURRENT AND PROJECTED FUTURE FLEETS----------56

5.1 U.S. OCEANBORNE FOREIGN TRADE/COMMERCIAL CARGO CARRIED----------64

5.2 FORMS OF SUPPORT FOR MARITIME INDUSTRIES-----75

5.3 OPTIONS TO INDUCE CONSTRUCTION OF 20 MERCHANT SHIPS ANNUALLY IN U.S. SHIPYARDS (Costs in 1984 dollars)----------78

5.4 OTHER POLICY OPTIONS (Costs in 1984 dollars)-81

6.1 MAJOR MERCHANT FLEETS OF THE WORLD JANUARY 1, 1984----------85

ABBREVIATIONS AND ACRONYMS

CCF	Captial Construction Fund - replaced CRF
CDS	Construction Differential Subsidy
COMSC	Commander, Military Sealift Command (Washington D.C.)
CRF	Capital Reserve Fund
DoD	Department of Defense
DTS	Defense Transportation System
DWT	Deadweight Tons
EUSC	Effective United States Control
MARAD	Maritime Administration
MPS	Maritime Prepositioning Ships
MSC	Military Sealift Command
NDRF	National Defense Reserve Fleet
NTPF	Near Term Prepositioning Force
ODS	Operating Differential Subsidy
RRF	Ready Reserve Force
UNCTAD	United Nations Conference on Trade and Development

I. INTRODUCTION

A. BACKGROUND

The merchant marine has played an integral part in the development of the United States throughout our history. Yet in these modern times of sophisticated weaponry and instantaneous global communications, the United States and its merchant marine face a crisis. As has been done in the past, the question has to be asked as to whether or not the nation should have a strong merchant marine. Is a U.S.-flag merchant marine necessary? If the answer is yes, which the author assumes to be the case, then how might that best be achieved?

The last time these questions were raised, the answer was yes also. The result was the Merchant Marine Act of 1936. Now 48 years old, it still stands as the basis for national maritime policy. Facing legislators and policy makers today are many options from which to choose. Many have been tried before, many are new. The results of the past policies must be considered if an intelligent choice is to be made. This thesis may provide some insight.

B. INTEREST AND PURPOSE

As a student of transportation and professionally a Naval officer, the author was concerned that little was known baout the problems of the U.S. merchant marine and

its relationship with the military. In fact, the normal Navy officer knows very little about U.S. laws and regulations regarding the U.S. maritime industry. In undertaking this study, it was the intent of the author to provide, as simply as possible, the facts, figures, problems, and options currently facing the maritime industry.

But all of those facts, figures, and history can almost be considered irrelevant. For what is needed is a maritime policy for the future. The members of the maritime industry, it would seem, would be an excellent source of information as to what policies have worked in the past and what is needed in the future. Therefore, in addition to conducting literary research, the opinions, impressions and thoughts of industry representatives were included. Their frankness and genuine concern regarding their own interests and the interests of the nation were very much appreciated and enlightening. Without their input, this work would be meaningless.

C. THE NATURE OF THE PROBLEM

In analyzing the U.S. merchant marine today, several important facts stand out. First of all, if the question was strictly economic in nature, one would have to seriously question the need for a merchant marine at all. Ships can be built better, faster, and cheaper overseas. Ships can be operated with fewer men, less expensively with foreign

crews rather than U.S. crews. Yet there still exist a few companies who can make it work.

The issue is not solely an economic one. The national security of the United States must also be considered. With a defense posture that requires advance deployment of troops overseas, strategic sealift is a vital mission that requires a strong and healthy merchant marine. Today, the ability of our merchant marine to meet the requirements that would be placed upon it in the event of an emergency should be seriously questioned. The question then becomes what is needed and how is it best achieved.

D. ASSUMPTIONS

In the writing of this thesis, the author has made the following assumptions:

1. that the U.S. merchant marine is vital to the economic and military security of the nation;
2. that, although it would be impossible to interview everyone involved in the maritime industry, selected interviews from a wide variety of participants in the shipping and shipbuilding industries would provide valuable insight that is worthy of consideration;
3. that the present policies and regulations in effect regarding the maritime industries are ineffective at promoting and maintaining a healthy and viable merchant marine, and;

4. future policy decisions will come from those already proposed in that the Congress is incapable of totally rewriting a comprehensive Merchant Marine Act that would address all facets of the industry. Therefore, changes would probably be piecemeal, addressing each facet of the industry separately as has been done since 1936.

E. ORGANIZATION

This thesis is divided into an introduction, five research chapters, and a final chapter of conclusions. Chapters II and III provide a historical review of the U.S maritime industry from its beginnings to the 1980's. Chapter IV addresses the current assessment of our national security requirements while providing a brief glimpse of the current government-sponsored programs initiated to provide a short-term response capability. Chapter V reviews all of the known legislative proposals currently being reviewed and studied by the Reagan administration and the Congress. Chapter VI outlines the opinions, sometimes rather candid, of representatives from within various maritime industries. Finally, Chapter VII describes the conclusions of the author based on the research presented in the preceding chapters. It should be noted that the conclusions and recommendations are solely those of the author and not of the industry representatives interviewed.

II. HISTORICAL REVIEW OF LEGISLATION

Since the earliest days of the nation, shipping and shipbuilding have occupied the minds of legislators as an important factor in the American economy and defense. As such, government support of American ships has evolved and continues to evolve much in response to the needs of the nation, and in more recent times, in response to the needs of the maritime industry itself. In order to understand the current state of the merchant marine one needs to be aware of exactly how the industry evolved. This chapter is a summary of the history of the United States merchant marine and the legislation and policies that have resulted in what exists today.

A. EARLY EVOLUTION AND DEVELOPMENT OF THE U.S. MERCHANT MARINE

The first English colonial settlers came to America on ships. From those earliest days in the development of the nation, the sea became an economic mainstay of life in the colonies. The early government of the United States recognized the necessity of maintaining a strong American merchant marine. Maintaining an adequate supply of U.S. ships could insure that essential trade routes would not be subject to the whims of other foreign vessels which might be unreliable. The first regulation of American ships came

about as early as the First Continental Congress of 1789. The Congress ruled that only American-built ships could fly the American flag and it offered a ten percent reduction in import taxes for items carried in American bottoms. Between 1789 and 1828, Congress passed at least fifty different tariff and other laws designed to protect and encourage American shipbuilding and shipowning. [1:51-52]

B. THE GOLDEN YEARS: 1789-1850

In addition to import tax and flagging restriction, foreign vessels who participated in the domestic coastwise trade were subjected to such heavy taxation by the individual states that it became unprofitable to participate in that trade unless the vessels were American-built and American owned. These actions were a prelude to the first cabotage acts that were introduced in the form of the Navigation Act of 1817, whereby foreign vessels were banned from the domestic trade entirely. [1:51-52]

During the period between the Revolution and the Civil War, there was vigorous growth for American shipping and shipbuilding and it is fondly remembered as the "Golden Age". American ships were the best constructed and most durable ships in the world. With a virtually unlimited supply of wood for vessels, American shipbuilding flourished. American merchants and shippers seized commercial opportunities to develop new trade routes and build a merchant

marine that became a major factor in world trade. American ships were of lower cost and competitively lower priced than those of some of the other "established" maritime nations such as Great Britain. During this period the U.S. merchant fleet grew to a position of prominence, second only to England.[2:7-8]

It was during the period prior to the Civil War that the first government subsidy program was initiated. As early as 1845, Congress authorized the Postmaster General to make contracts with American vessels for the transportation of mail. During these early periods, as it is today, competition with foreign vessels often led to new designs, new technology, and the need to provide better service to shippers at a lower cost. The American postal subsidy was legislated in response to an English subsidy program for the transport of English mail. [1:55] These additional funds to American shippers enabled them to invest and compete on a more equal basis. This underlying idea of cost parity continues today with other federal subsidy programs.

C. THE CIVIL WAR TO WORLD WAR I

Whereas the period prior to the Civil War was considered the "Golden Age" for American shipping and shipbuilding, the period of the Civil War to World War I was a period of major decline. This period was significant to the U.S. merchant marine for two reasons. First, during the Civil War, the South and North decimated each other's vessels

in an attempt to interdict shipping. Merchants of American and foreign countries were afraid to ship their goods in American ships because of these attacks. By the end of the Civil War, American shipowners had sold almost one-third of their American fleet to foreign shipowners in order to protect their investments. Secondly, technological change in the form of steel ships came and by-passed the American shipbuilding industry. Wood had been easily accessible to the American shipbuilder, steel was not. The cost of U.S. steel was much higher than that of European steel. As a result, American steel-built ships, when they were finally built, cost forty to seventy-five percent more than the European vessel. U.S. investors looked to foreign-built vessels and therefore foreign registration. [1:56-58]

The United States grew to rely heavily on foreign-built and foreign-registered vessels to carry its commerce. At the outset of World War I, much of the foreign tonnage was no longer accessible to the American shipper.

As an example of just how drastic the decline during the period from 1850 to 1916 was, there were periods when the American merchant marine virtually disappeared from the seas. In 1850, American ships carried between seventy-two and seventy-three percent of the nation's foreign commerce. By 1900, this figure was ten percent and by 1910, it had dropped to 8.7 percent. [3:20]

The end result was that the United States had virtually no merchant marine at the outbreak of World War I. The United States was consequently unable to provide the shipping service necessary to maintain its economy or to meet its military needs at the time. Other nations withdrew their fleets from trade routes that were essential to the U.S. commerce. [4:45]

D. EARLY TWENTIETH CENTURY LEGISLATION, 1900-1935.

During this period, several government policies and regulations were passed by Congress that still impact on today's merchant marine. The Seaman's Act of 1915 increased the standards of working and safety for seamen serving on U.S. flag vessels. It strengthened the seafaring unions and laid the initial requirements for use of higher-cost American crews. The Merchant Marine Act of 1916 was passed in response to the demand for bottoms required to support the war effort. This act resulted in a largely government-owned fleet of which many were unfit as commercial vessels. These vessels were built in private yards as opposed to government yards at nearly two and a half times the cost. Government inefficiencies were commonplace even then. [1:64-66]

The Merchant Marine Act of 1916 also established the Shipping Board which was the forerunner of today's government maritime bodies, the Maritime Administration and the Federal Maritime Commission. The Shipping Board was originally

designed to promote and assist the U.S. merchant marine. The Board was authorized to organize and develop a government corporation to carry out its programs which included purchasing, building, and operating government-owned ships. The United States emerged from its massive shipbuilding program by producing the world's largest merchant fleet, most of which was government built and owned.

The government's problem then was to determine what should be done with this fleet. The Merchant Marine Act of 1920, more commonly referred to as the Jones Act, was the Congressional response. It had two main objectives: to provide for the transfer of the Shipping Board's vast fleet of ships to private hands; and secondly, to establish a framework in which the fleet could operate profitably under private management. [2:12-13]

Congress declared in Section 1 of the 1920 Act:

> ...That it is necessary for the national defense and for the proper growth of its foreign and domestic commerce that the United States shall have a merchant marine of the best equipped and most suitable types of vessels sufficient to carry the greater portion of its commerce and serve as a naval or military auxiliary in time of war or national emergency ultimately to be owned and operated privately by citizens of the United States; and it is hereby declared to be the policy of the United States to do whatever may be necessary to develop and encourage the maintenance of such a merchant marine, and, insofar as may not be inconsistent with the express provisions of the Act, the United States Shipping Board shall, in the disposition of vessels and shipping property as hereinafter provided, in the making of rules and regulations, and in the administration of the shipping laws always in view this purpose and object as the primary end to be obtained. [5]

Although modified by the 1936 Merchant Marine Act by substituting the word "substantial" for "greater" in the phrase "the greater portion of its commerce", this policy remains the basis for national maritime policy even today.

The Merchant Marine Act of 1920 also acted to reaffirm and strengthen the long standing practice of cabotage, that is, reserving all coastal trade, including trade with off-shore possessions, to U.S. built, owned, and crewed ships. So important was this reaffirmation that even today, the use of the term "Jones Act" usually refers to cabotage and the domestic trade.

Due to the vast number of ships available to the merchant marine in the early twenties, carriage of U.S. foreign trade reached a high of fifty one percent on U.S. vessels. That share was not maintained and, except for World War II, has declined steadily. By 1933, the U.S. flag share had fallen to thirty three percent. [2:14]

Facing the fact that the implementors of the Merchant Marine Act of 1920 had not successfully met their objectives and recognizing the fact that the merchant marine was declining, Congress reacted by enacting the Merchant Marine Act of 1928. The Act established the first construction loan fund that was attractive to American shipowners. It also broadened the benefits of the mail subsidies. In order to qualify for the subsidy, vessels were required to have American officers and eventually two-thirds American crew.

The actual awarding of these contracts and the rates at which they were applied were grossly mismanaged. All in all, these government efforts at aiding an overall ailing merchant marine were ineffective and fraught with mismanagement and corruption. New legislation was needed, a new foundation on which to build an effective merchant marine. The Merchant Marine Act of 1936 was the result. [1:68-72]

III. MODERN TIMES - THE 1936 ACT TO THE PRESENT

Prior to the Merchant Marine Act of 1936, subsidy programs were more or less hidden under the guise of the postal contracts. Their mismanagement particularly dissatisfied Congress and the overall dwindling merchant marine led to the question of whether or not a strong merchant marine was even required or necessary. President Franklin Roosevelt said yes, and he proposed an end to the disguised subsidies and recommended a new, direct subsidy program, one that would favor a strong American merchant marine and would at the same time fulfill the intent of earlier Shipping Acts. The result was the Merchant Marine Act of 1936, the preamble of which still stands as the basis for government policy regarding the merchant marine industry. It reads:

> It is necessary for the national defense and development of its foreign and domestic commerce that the United States shall have a merchant marine (a) sufficient to carry its domestic water-borne export and import foreign commerce of the United States and to provide shipping service essential for maintaining the flow of such domestic and foreign water-borne commerce at all times, (b) capable of serving as a naval and military auxiliary in time of war or national emergency, (c) owned and operated under the United States flag by citizens of the United States insofar as may be practicable, (d) composed of the best-equipped, safest, and most suitable types of vessels, constructed in the United States and manned with trained and efficient citizen personnel, and (e) supplemented by efficient facilities for shipbuilding and ship repair. It is hereby declared to be the policy of the United States to foster the development and encourage the maintenance of such a merchant marine. [6]

To administer the government aid established in the Merchant Marine Act of 1936, the Act also established the U.S. Maritime Commission. The Commission originally dealt with both regulatory and promotional functions associated with the merchant marine. The Commission lasted until 1950 when the promotional duties were assigned to the newly established Maritime Administration (MARAD). The regulatory duties were assigned to the Federal Maritime Board which, in 1961, evolved to the current Federal Maritime Commission (FMC). [7:35]

A. DIRECT SUBSIDIZATION

The major objective of the Merchant Marine Act of 1936 was to create a substantial fleet of U.S. flag merchant ships, built in U.S. shipyards, owned and crewed by citizens. To achieve this, several administrative programs were developed within the Act.

1. Title V - Construction Differential Subsidy (CDS)

To stimulate shipbuilding in the United States, the Merchant Marine Act of 1936 provides for a construction differential subsidy, a direct subsidy that covers the difference in price between a ship built in the United States and the price that would be paid for the same ship if built abroad. The basis of the CDS subsidy is cost parity. Under this title, any U.S. citizen or shipyard may apply for the subsidy under the following conditions:

a. The vessel must be used in the foreign commerce, that is foreign trade. Provisions are made if the vessel is operated in the domestic trade for pro-rating repayment of CDS funds,

b. Funds must be used for the construction of a new vessel or reconstruction or reconditioning of an existing vessel,

c. The plans for the vessel must be approved by the Navy Department which determines the suitability of the vessels for use by the government in times of war or national emergency. In other words, the plans must be approved by the Navy regarding the incorporation of national defense features,

d. A downpayment of 25 percent of the value of the vessel must be paid, the remainder to be paid over 25 years, and

e. The vessel must be registered in the U.S. for at least 25 years, or as long as principal or interest is owed the government. [1:79-80]

With the overall intent to be the providing of cost parity with foreign competitors, the construction differential subsidy was intended to help promote the higher-cost American shipbuilding industry. It also enabled investors to meet the requirement for American flagging of vessels in that they were required to be American-built with American materials.

There are, however, limitations. The CDS could reimburse owners up to only 50 percent of the cost for competitive bidding contracts or 35 percent for negotiated contracts. [4:37-40]

2. Title VI - Operating Differential Subsidy (ODS)

To stimulate operation of American-built ships with American crews, the Merchant Marine Act of 1936 also provided for an operating differential subsidy (ODS), another direct subsidy intended to cover the difference in operating costs between an American operator and his foreign competitors. Again, this subsidy was intended to create or foster some cost parity between American and foreign ship operators, and it was limited to vessels carrying freight for the essential foreign trade, primarily liners and not the oil or bulk trade. Included in the operating costs are: wages for officers and crew; maintenance and repair; and insurance, both hull and machinery as well as protection and indemnity. [1:53]

The ships eligible to receive such aid must be vessels constructed in the United States of steel and must be steam or motor-driven and of a size and type that would be efficient and promote the foreign commerce. This subsidy was not to be paid over a period exceeding 20 years, nor for a vessel over 25 years of age unless an exemption was specifically applied for. This requirement would help to promote replacement of older vessels.

It is significant to note that wages account for about eighty-five percent of the ODS, while insurance accounts for eight percent, and maintenance and repairs about six percent. [1:84]

B. INDIRECT SUBSIDIZATION

Several other provisions of the 1936 Act provided for indirect benefits available to the American shipowners and operators. These were termed indirect because they did not involve the direct outlay of funds from the government, but instead provided for either monetary or preferential treatment of shipowners and operators, thereby further enhancing their competitive position.

1. Title XI - Federal Ship Mortgage and Loan Insurance Program

Perhaps the most successful of all government activities designed to promote the merchant marine, this Title XI insures commercial loans and mortgages to finance a fixed proportion (up to 87.5 percent for nonsubsidized vessels and 75 percent for subsidized vessels) of the actual cost of construction, reconstruction, or reconditioning of U.S.-built vessels. This has been attractive to investors because it extends up to 25 years, covering the expected economic life of the vessel and allows debt financing to be spread out over a long term, thereby hopefully insuring a relatively stable income for the vessel owner. [4:54-55]

Title XI also created another major aid to the shipowner with the Captial Reserve Fund. This fund enabled subsidized American shipping companies to deposit a specified portion of their revenues in a special construction fund. Revenues deposited in this fund were exempt from taxes and could eventually be used for construction of new vessels. [7:36-37]

2. Title XII - War Risk Insurance

This title can provide insurance against loss or damage by war risks to U.S. water-borne commerce whenever such insurance cannot be obtained at reasonable rates from other authorized insurance companies in the U.S. [1:90]

3. Cargo Preference

The Merchant Marine Act of 1936 also established a cargo preference system that reaffirmed several earlier such provisions. There have been several cargo preference laws passed, such as the mail subsidies and others. Cabotage laws such as the Jones Act provide that materials transported in the domestic trade of the United States, that is between U.S. ports, be carried by U.S.-flagged vessels. Other such preferential laws include the following:

a. The 1904 Military Transportation Act gives U.S.-flag vessels preference in the transportation of supplies for the armed services in direct overseas support of the U.S. military,

b. In 1934, Congress enacted Public Resolution No. 17 which applies to cargoes obtained through loans granted by the Export-Import Bank. This Resolution stipulates that goods for exportation from the United States, procured with the Bank's loans, must be carried on U.S.-flag ships except when waivers are granted by the Maritime Administration, as provided in the Resolution, and

c. Since the 1936 Act, the Cargo Preference Act of 1954, more often referred to as Public Law 83-664, requires that at least fifty percent of all government generated cargo must be transported on privately-owned U.S.-flag vessels to the extent of their availability. These cargoes include food and other aid.

The effect of such legislation guaranteed U.S. carriers a certain amount of business.

C. OTHER PROVISIONS

The Merchant Marine Act of 1936 contained one other very important provision. If it was found that the subsidies and financing aids did not stimulate private investment, the Act authorized the government to build ships and to charter them to American commercial operators. [2:24]

Overall, the Merchant Marine Act of 1936 is a remarkably comprehensive and durable piece of legislations that has endured as the primary basis and policy for the merchant

marine for nearly fifty years. Its intent was to serve both the shipbuilders and the shipowners/operators. Should the provisions of the Act ever have been fully implemented, the effects might be more positive than they have been.

D. THE MERCHANT MARINE: 1936-1984

The history of merchant marine legislation after 1936 has been one of primarily amending and refining the 1936 Act to meet the current and changing demands of the maritime industry. [1:90] Shortly after the Act's passage, World War II broke out in Europe and for the second time in this century, the United States found itself severely hampered by a lack of shipping assets. As with World War I, a massive shipbuilding program was instituted. This war, in which American forces were engaged in a global conflict, demonstrated emphatically how acutely national security in such a conflict is dependent upon cargo shipping.

At the outset of the War, the merchant marine's percentage of world-wide tonnage had declined to 16.6 percent. Due to the emergency shipbuilding program which produced nearly 5,000 ships efficiently and quickly, the United States possessed nearly sixty percent of the world's tonnage at the war's end. [1:90-91]

With the war over, the United States was again faced with the problem of disposing of a large government-owned fleet of about 4,500 ships, more than all other nations combined. The Merchant Ship Sales Act of 1946 established

the guidelines for the demobilizaton and disposal of this large fleet. The purpose of this act was to sell as many vessels as possible on a priority basis to the U.S. merchant marine and then to other foreign, friendly nations. Nearly 2,000 ships were sold under this program, of which nearly fifty-seven percent went to foreigners. Of the remaining ships, about 1,400 were mothballed in the National Defense Reserve Fleet, available for future mobilization in time of emergency. [2:17]

Throughout the 1950's and 1960's, government aid to the merchant marine continued as prescribed in the Merchant Marine Act of 1936. The provisions of the Act proved durable, yet, except for the Korean War which produced another boom to shipping, the merchant marine continued to decline in numbers and tonnage. [7:38-39]

The Vietnam crisis placed a renewed demand for shipping commencing in 1965. It is significant to note that some ninety-eight percent of the military cargoes deployed to Vietnam were carried by ship. [1:92] Yet, in spite of having a once dominant position in world shipping, the United States merchant marine continued to decline. Foreign competition, driven by post-war facilities and innovative management, was able to achieve an overall price leadership position in shipbuilding. This made it difficult for U.S. shipyards to meet prices offered by foreign shipbuilders. By 1970, the average age of the U.S.-flag fleet was nearly twenty-two

years, twice that of the United Kingdom and three times that of Japan. [2:18]

The 1936 Act had set the stage for adequate construction of a proper mix of cargo ships, bulk carriers, and tankers for the U.S. flag fleet. However, with the post-war surplus of ships, ship production never became a gradual, planned system. In 1969, about sixty percent of all U.S.-flag ships were over 20 years old and in that year, U.S. ships carried the smallest percentage (4.6) of the nation's own cargo in this century up to that time. [8:13]

1. The Merchant Marine Act of 1970

In perpetuating the principles of its parent Act, the 1936 Act, the Merchant Marine Act of 1970 was an attempt to bolster both the merchant marine and the shipbuilding industry. It also attempted to update provisions of the 1936 Act by considering changes in the industry regarding technology, ship size, speed and manning requirements as well as changes in the nature of commodities being traded. The direct objective of the 1970 Act was, however, to revitalize the merchant marine by stimulating the construction of 300 modern merchant ships during the period 1971-1980. [1:92-93]

In authorizing a program to rebuild the merchant marine, standardized designs, built with series production methods would presumably promote and allow shipbuilders to take advantage of certain economies of scale and decrease

costs by utilizing series construction methods such as those proven during World War II. Additionally, construction differential subsidies were to be paid directly to the shipbuilder and in expanding the CDS and ODS coverage, bulk carriers and tankers were made eligible, thereby hopefully removing a major barrier to the registration of the oil/bulk carriers under the U.S. flag instead of those of the so-called Flags of Convenience or Flags of Necessity, depending on one's point of view. [2:18]

The 1970 Act also expanded the statutory limit for funds for the Federal Ship Mortgage Insurance program. This effort was aimed at bolstering primarily the shipbuilding industry.

The Merchant Marine Act of 1970 also authorized carriers to establish capital construction funds (CCF) which entitled a shipowner to deposit a proportion of his revenues into a tax-free interest-bearing account similar to the provisions of the 1936 Act's capital reserve funds. The purpose remained to be for the later financing of U.S. construction orders, but the difference was that the capital construction funds were open to all American-flag carriers, not just those who were subsidized. The provisions also liberalized the specifications as to which funds and revenues could be deposited. The immediate benefit was to the shipowners who were able to defer taxes on revenues while the long term benefits were to the U.S. shipbuilding industry

who were to be the recipients of later shipbuilding orders utilizing the funds. [9:55]

Spurred on by the provisions of the 1970 Act, there was an early surge in shipbuilding demand. The Act's primary goal or target of construction of 300 ships was not achieved, however, with approximately 175 ships constructed during the decade of the 1970's. [10:31] These new vessels did not increase appreciably the number of ships in the U.S. merchant marine as they replaced older vessels that were retired, scrapped, or sold overseas. In this light, one might conclude that the Merchant Marine Act of 1970 has been only marginally successful.

2. The 1980's and the Reagan Administration

The 1980's have seen little change in the U.S. merchant marine regarding the number of vessels. The trend is still a slow decline in the number of vessels. What has been increasing has been the average age of those vessels which now stands at twenty-three years. Older vessels are not being replaced. As of January 1, 1983, the Maritime Administration listed 832 vessels under the U.S. flag. That total comprises only 3.3 percent of the world fleet of merchant vessels. [11]

Although the number of vessels in the U.S. flag fleet has dropped, the fleet's capacity has not decreased. Even during a period of international shipping recession the merchant marine has been able to hold its own. What

this means is that the ships' cargo carrying capacity is increasing, thereby seeking economies of scale advantages. [12:24-26]

With the inauguration of President Reagan in January of 1981, there was a new sense of optimism in the maritime industries. The Reagan administration appeared to be dedicated to a strong national defense and the corresponding merchant marine and its shipbuilding base. In an effort to bolster a sagging economy, the Reagan administration was able to revise the tax laws in 1981, approving an accelerated depreciation tax schedule which reduced depreciation schedules to five years while retaining the investment tax credits made available by the Tax Reform Act of 1976. This enabled U.S. owners to recover the capital in their ships in only five years as compared to the straight-line method, used previously, which spread the depreciation over the useful life of the ship, normally twenty-five years. [13:101-108] But this was just a beginning of changes to legislation that would affect the U.S. merchant marine.

a. The Omnibus Budget Reconciliation Act of 1981.

While the Reagan Administration on one hand favored the construction of a 600-ship Navy and undertook budget measures to begin such a program, it was likewise faced with the problem of a growing deficit and pressure to reduce government spending. The merchant marine industry

was to feel the results of these pressures. The Reagan administration's proposed budget for Fiscal Year (FY) 1982 cut construction differential subsidy (CDS) funds from the budget. Other maritime programs such as the Title XI ship mortgage guarantees also found funds reduced. [14]

As a follow-on to the budget, the Omnibus Budget Reconciliation Act of 1981 contained a provision which amended the Merchant Marine Act of 1936. Designated as Section 615 of the 1936 Act, this provision would qualify foreign-built merchant vessels of 5,000 deadweight tons and over for operating differential subsidy (ODS) if sufficient CDS funds were not available. Operators were required to receive written certification from the Secretary of Transportation that its CDS application could not be approved due to the unavailability of funds in the CDS account. During FY 1982, Section 615 permission was granted to eighteen companies to construct, reconstruct, or acquire vessels in foreign shipyards. Table 3.1 lists the major applicants for this certification during FY 1982. [15:3]

This provision has since received the continuing support of the Reagan administration. The last CDS contracts were written in FY 1981. At the same time, while no new ODS contracts are being written, existing contracts are being honored. Therefore, the prospects for CDS payments and ODS contracts in the future are extremely slim. Table 3.2 shows the historical record of ODS and CDS outlays.

TABLE 3.1 SECTION 615 APPROVALS AS OF SEPTEMBER 30, 1983

Applicant	Project	Location	Estimated Cost
Aeron Marine	1 to 2 Bulk Carriers,New	Unknown	$40,000,000
American President Lines,Inc.	Reconstruct 3 Containerships	Japan	$10,160,000
Delta Steamship Lines	Build 10 new vessels	Not Available	$350,000,000
Equity Marine,I,II & III, Inc. Equity Bulkships, I,II,& III,Inc.	Build 6 O/B/O Carriers	Japan & Korea	$168,000,000
First American Bulk Carrier Inc.	Build 2 Bulk/ Container vessels	Korea	$69,100,000
Hvide Shipping, Inc.	Reconstruct Barge into Chemical Tanker	Not Available	Unknown
Margate Shipping	Retrofit 3 Tankers	Portugal	$3,324,484
Moore McCormack Bulk Transport	Retrofit 3 Tankers	Norway	$7,350,000
Ogden Marine,Inc.	Build 2 Dry-Bulk Carriers	Japan	$48,971,596
Phoenix Bulkship I,II,& III,Inc.	Convert 3 LNG to Dry-bulk/oil carriers	Korea	$69,000,000
United States Lines, Inc.	Build 14 Jumbo Containerships	Korea	$780,500,000
United States Lines,Inc.	Convert Barge into Containership	Korea	$4,200,000

TABLE 3.2 MARINE SUBSIDY OUTLAYS - 1936-1983

Fiscal Year	CDS	Reconstruction Subsidy	Total	ODS	ODS & CDS
1936-1955	$248,320,942[a]	$ 3,286,888	$ 251,607,830	$ 341,109,987	$ 592,717,817
1956-1960	129,806,005	34,881,409	164,687,414	644,115,146	808,802,560
1961	100,145,654	1,215,432	101,361,086	150,142,575	251,503,661
1962	134,552,647	4,160,591	138,713,238	181,918,756	320,631,994
1963	89,235,895	4,181,314	93,417,209	220,676,685	314,093,894
1964	76,608,323	1,665,087	78,273,410	203,036,844	281,310,254
1965	86,096,872	38,138	86,135,010	213,334,409	299,469,419
1966	69,446,510	2,571,566	72,018,076	186,628,357	258,646,433
1967	80,155,452	932,114	81,087,566	175,631,860	256,719,426
1968	95,989,586	96,707	96,086,293	200,129,670	296,215,963
1969	93,952,849	57,329	94,010,178	194,702,569	288,712,747
1970	73,528,904	21,723,343	95,252,247	205,731,711	300,983,958
1971	107,637,353	27,450,968	135,088,321	268,021,097	403,109,418
1972	111,950,403	29,748,076	141,698,479	235,666,830	377,365,310
1973	168,183,937	17,384,604	185,568,541	226,710,926	412,279,467
1974	185,060,501	13,844,951	198,905,452	257,919,080	456,824,532
1975	237,895,092	1,900,571	239,795,663	243,152,340	482,948,003
1976[b]	233,826,424	9,886,024	243,712,448	386,433,994	630,146,442
1977	203,479,571	15,052,072	218,531,643	343,875,521	562,407,164
1978	148,690,842	7,318,705	156,009,547	303,193,575	459,203,122
1979	198,518,437	2,258,492	200,776,929	300,521,683	501,298,612
1980	262,727,122	2,352,744	265,079,866	341,368,236	606,448,102
1981	196,446,214	11,666,978	208,113,192	334,853,670	542,966,862
1982	140,774,519	43,710,698	184,485,217	400,689,713	585,174,930
1983	76,941,138	7,519,881	84,511,019	368,194,331	452,705,350
Total	$3,550,021,192	$264,904,682	$3,814,925,874	$6,927,759,566	$10,742,685,440

a. Includes $131.5 million CDS adjustments covering the World War II Period, $105.8 million equivalent to CDS allowances were made in connection with the Mariner Ship Construction Program, and $10.8 million for CDS in fiscal years 1954 to 1955.
b. Includes totals for FY 1976 the Transition Quarter ending September 30, 1976.

b. The Shipping Act of 1984

In March of 1984, Congress finally passed the Shipping Act of 1984 after several years of hearings and attempts to effect its passage. This Act broadens antitrust immunity for international ocean liners and it revises the regulation of shipping. This bill relaxes restrictions on conferences among U.S. liner companies that make agreements limiting and controlling competition in international shipping, such as setting prices, and dividing routes and cargoes. Pacts that meet the standards set by the legislation will be automatically approved by the Federal Maritime Commission and exempt from antitrust laws. The modification of these restrictions will enhance U.S. companies competitive position with foreign companies. [16:567-568]

While many of the long term effects of this Act are still being analyzed, the overall impression from the ship operators is that it is an action that has long been overdue and necessary. Although this legislation is not the answer to all of the questions or problems of the U.S. merchant marine, it is definitely perceived as a step in the right direction.

E. DISADVANTAGES OF THE U.S. FLAG

None of the actions of Congress in recent times have had the desired effects. Today the merchant marine continues to dwindle in numbers while at the same time growing older as indicated earlier. Some of the original subsidies have

been modified, while some, such as the CDS, although not eliminated, have been left unfunded. On an interim basis in the place of the CDS, foreign construction and repair has been opened to owners seeking to flag in the U.S. their vessels to be operated in the foreign trade. The authority to obtain foreign-built vessels met with approval by the shipowners, but it has hurt the shipbuilding and repair industry.

When looking at the registration of American vessels, it is difficult to indentify anything that would make the American flag option very attractive. By far, the largest single factor in any decision has to be high labor rates that are paid to American crews and shipyard laborers, a situation not likely to change. Costs for fuel, provisions, port costs, and a good deal of other operations are common elements of all vessel operation regardless of flag.

1. The Shipbuilding Aspect

The Merchant Marine Act of 1936 provided for the construction differential subsidy (CDS) and the 1970 Act extended its provisions to cover the oil/bulk vessels thereby making all vessels to be operated in the foreign trade of the United States eligible for this subsidy. As previously mentioned, this subsidy was designed to provide "cost parity" for American shipyards compared to prices of foreign-built ships. Although the limit on CDS funds has varied, fifty percent has been the upper limit in recent times.

While the CDS was intended to help promote the higher-cost shipyards, it also enabled investors to meet the requirement for American-flagging of vessels in that they were required to be American-built with American materials. [8:35-43]

The prices charged for merchant vessels by U.S. shipyards are much higher than those built abroad, particularly in comparison with ships from Japanese and Korean yards. Not only are the U.S. prices nearly three times those of Asian yards (see Table 3.3) but delivery time us usually months, in some cases over a year, earlier for a foreign-built ship.

TABLE 3.3 1983 SHIPBUILDING COSTS, U.S. AND JAPAN (in millions of dollars)

Country	Containership (2,450 20-foot equivalent units) a.	Bulk Carrier (35,000 deadweight tons) b.	Tanker (99,000 deadweight tons)
U.S. built	132.0	69.0	96.0
Japanese built	50.8	22.5	34.3

a. Standard measurement for size of containerships, relating to the number of 20 foot containers to be carried on board.

b. Standard measurement of the cargo carrying capacity of a vessel, measured in long tons (2,240 pounds)
Source: Maritime Administration [2]

Not only is there a real wage, materials, and manhours differential between American and foreign shipyards, but the continuing strength of the dollar relative to other nations has made the foreign-build option even more attractive. Table 3.4 provides some figures for comparison. [2:21-40]

TABLE 3.4 SHIPYARD COST COMPARISONS

Costs	United States	Japan	Europe
Wages (index numbers)	100	74	83
Manhours per ship (index numbers)	100	46	57
Steel prices (in dollars per ton)	535	386	331-353

[2:42]

The administration has justified the foreign build option by stating that ships procured in this manner would not take anything away from U.S. shipyards because those ships would not be ordered from the higher cost yards anyway. They state that no operator could hope to carry the burden of the higher capital costs and yet compete in an international market against ships built at one-third the cost. Thirty four ships were ordered from foreign yards during the first year of this relaxed regulation. [17:3]

The overall result has been that remaining new ship orders to U.S. yards has been limited to domestic vessels and orders from the U.S. Navy which have been substantial. Although there is considerable gloom in the shipbuilding industry regarding commercial orders, U.S. shipyards have invested considerable amounts in recent years in anticipation of work for the U.S. Navy. With the 600 ship Navy as a goal of the current administration, several yards have shifted

production from commercial vessels to Navy construction. Construction, conversion, and repair work on behalf of the Navy has become the mainstay of America's private shipyards. [18:23-26]

Table 3.5 shows the trends in Navy shipbuilding programs over the last fourteen years. There have been more orders placed in each of the last three years than in any other year.

TABLE 3.5 NAVAL VESSELS ORDERED FROM PRIVATE YARDS BY CALENDAR YEAR (Ships of 1,000 Light Displacement Tons and Larger)

Year	Orders	Year	Orders
1970	6	1977	15
1971	15	1978	25
1972	14	1979	13
1973	7	1980	11
1974	16	1981	28
1975	16	1982	30
1976	20	1983	27

Source: Statistical Quarterly, American Council of Shipbuilders Fourth Quarter, 1983.

Although Navy orders have helped to sustain U.S. shipyards in lean times, the fact still remains that Navy work tends to be relatively concentrated in less than a dozen principal yards that have specialized enough to handle complex Naval construction. As such, the slim prospects for commercial yards means that several existing yards will probably have to close or be consolidated with larger yards. Although the moderate shipbuilding base is relatively stable, Naval orders cannot sustain required shipyard capabilities.

Whereas most people in the industry agree that there is excess capacity in U.S. shipyards, most also agree that the need exists for a strong and viable shipbuilding and repair industry and that it should be able to provide the surge capacity to build replacement vessels or repair those damaged in times of emergency. In this regard, any capacity that is required should be operated economically and without the aid of the CDS in the future.

The domestic shipbuilding market has collapsed in recent years, yet that industry is vital to support the Navy and the U.S. merchant fleet in wartime. Wartime tasks would include reactivation of reserve fleets, accelerated construction, and repair activities. It has been suggested that the current shipbuilding industry, which is now largely sustained by Navy contracts, may not be adequate for wartime mobilization if recent projections of shipbuilding trends continue.[2:xv-xxv]

Any effort to maintain or expand this shipbuilding base will require a continuing demand for the industry's products, a condition now in doubt because of the unfavorable competitive trends within the shipbuilding industry. In any event, the handwriting is on the wall for the shipbuilding industry. The problem facing the shipbuilders is that this administration is making special efforts at finding inefficiencies and then eliminating them. There will be no funding for the CDS program and ships that are to be competitive

with foreign operators will be built in foreign yards. The divorce between the foreign trade ship operators and the shipbuilding industry has begun. That customer is no longer available to the U.S. shipyards, leaving only vessels built for the domestic trade, Naval shipbuilding orders, and the dim possibility of a government-sponsored shipbuilding program somewhere in the future.

The Shipbuilders Council of America, in its 1981 annual report notes that:

> "There can be opportunities to emulate the Japanese...more middle managers experiences in industrial engineering, more co-ordination between production control and material procurement, and more product oriented work breakdown packages for more effective planning, scheduling and production...With a sufficient throughput, the potentials for improvement in efficiency, productivity and costs are obviously substantial." [19]

This theme for increased throughput, more ship construction orders, has been stressed throughout every annual report since. The shipbuilders have failed to recognize that this administration expects improvements to come from industry innovative design and marketing efforts of their own rather than through government subsidies and contracts. [20:18-19]

The U.S. shipbuilding industry is in a state of decline. New shipbuilding orders have declined. Formerly guaranteed customers have been authorized to build their ships in foreign yards and the overall worldwide economic picture all spell lean times for the U.S. shipbuilding industry. Remaining commercial customers are still hesitant

at placing new orders because of prohibitive capital investment requirements, and U.S. Navy orders are the only apparent "sure thing" in the future and even that customer has a history of uncertainty. [21:254-274]

2. The Ship Owners/Operators Aspect

Assuming that an owner is able to overcome the capital constraints of obtaining a vessel, whether it be built in the United States or foreign-built, the fact that crew costs associated with the U.S. flag operations has been well publicized makes it no less valid. In order to assist in this area, the Merchant Marine Acts of 1936 and 1970 instituted the operating differential subsidy (ODS) designed to provide "cost parity" between the U.S. flag operations and their foreign competitors. The need for such a subsidy can be demonstrated by reviewing Department of Transportation figures which put the daily cost of crewing a U.S. vessel with a manning level of thirty-nine persons at $8,200 a day. Contrast this with a crew of thirty-seven and a daily cost of $3,061 for a foreign European community vessel and crew of thirty-seven with a daily cost of $1,616 in the case of a flag of convenience vessel. [22:34-38]

In 1981, U.S. flag vessels received $290,764,132 in ODS assistance from the Maritime Administration. Table 3.2 reviewed the totals for CDS and ODS outlays through 1982. With technology changing, lower crew manning levels are possible, but government regulations regarding safety

at sea and the seagoing unions nave not supported these reductions. It has been estimated that wages represent 90 to 95 percent of the economic disadvantage that American shipowners suffer if they are not subsidized. [23:26-63]

A comparison of the annual crew costs (wages and subsistance) for a representative modern containership can be seen in Table 3.6. In part this difference parallels the difference in living standards, but a contributing factor may be the operating differential subsidy (ODS) itself. Crew costs beyond those of foreign competition can simply be passed on to the government by subsidized operators as an additional subsidy claim. Owners have not been pressed to seek wage settlements that reflect actual market conditions because the ODS could be relied upon to make up the difference. [2:25]

TABLE 3.6 TYPICAL CONTAINERSHIP ANNUAL CREW COSTS, UNITED STATES AND FOREIGN MANNING, 1983

Costs	Crew Nationality		
	United States	United Kingdon	Singapore
Wages (In dollars)	3,780,000	1,433,000	570,000
Subsistance (In dollars)	124,000	82,000	53,000
Ratio to United States	1.00	0.39	00.16

Source: Maritime Administration [2:25]

When all of the ship operating costs are compiled and compared, it can be seen that U.S. ship operators face significant cost disadvantages. As an example, Table 3.7 compares three significant costs faced by a U.S. shipowner operating in the foreign trade, using hypothetical ships as follows: Ship A - vessel U.S.-built and crewed; Ship B - vessel foreign-built, U.S. crewed; and Ship C - vessel foreign-built and foreign crew, much like a flag of convenience vessel. [2:21-32]

TABLE 3.7 ANNUAL ESTIMATED OPERATING COSTS FOR 30,000 DEADWEIGHT TON CONTAINERSHIP

	A	B	C
	Ship Comparisons		
Where Built	United States	Japan	Japan
Crew	United States	United States	Singapore
Propulsion	Steam	Diesel	Diesel
	Ship Costs (In thousands of dollars)		
Wages	3,780	3,780	570
Subsistance	124	124	53
Supplies	247	247	158
Maintenance	1,050	1.050	471
Insurance	933	933	328
Other	77	77	30
Fuel	5,500	4,600	4,600
Capital	14,200	5,200	5,200
Cargo/port	4,600	4,600	4,600
Total	30,511	20,611	16,010
Costs per delivered ton	61	41	32

Note: Estimates compiled by the Congressional Budget Office primarily on Maritime Administration Data. [2:31]

As one could imagine, the free market rates would be set by the vessel facing the lowest costs who could operate profitably with lower rates.

In addition to cost considerations, foreign-built vessels do not face the same amount of regulation on the operation of their ships, especially Coast Guard regulations regarding vessel safety and crew manning requirements. Likewise, their operational flexibility is unhampered. Foreign ships are able to trade wherever the best opportunities exist without hindrance from the U.S. government except in the domestic trades of the United States. [8:27]

As a result of this freedom, foreign operators are free to establish rates utilizing a different set of rules. Whereas U.S. flag operators are required by law to file rates and publish changes, many foreign competitors offer rebates or kickbacks to shippers and shipping managers that enhance their competitive position. These actions are considered illegal by U.S. standards but the foreign operators don't care a bit. So not only do American operators face considerable cost disadvantages, they also face restrictions in the way business is conducted on the international market. In spite of these impediments to profitable operations, American shipowners have managed to increase their cargo carrying capacity even though the numbers of vessels has declined.

The future, however, holds little prospect of change. American shipyards and ship operators will always face higher costs. Only technological innovation and productivity gains will enhance their world-wide economic competitive position if no government action is taken in the future.

IV. SEALIFT AND NATIONAL DEFENSE

It seems apparent that in the world market for shipping services, the U.S. merchant marine faces a considerable disadvantage. From a strictly economic aspect, current world shipping assets appear to be sufficient to carry the nation's commerce. What has been unfortunate is the fact that the U.S. merchant marine has carried an ever-declining portion of this nation's own trade. In 1983, U.S. trade amounted to $470 billion. U.S.-flag ships were only moderate participants in this trade, carrying only 16.2 percent by value and less than 6 percent by weight. [2:35]

But carrying the nation's foreign trade is only one reason for maintaining a merchant marine. The U.S. merchant marine is often referred to as the "Fourth Arm of Defense". It is true! It is also true that this "Arm" is probably very weak, but measures are being implemented to help strengthen it.

A. SEALIFT - A FUNDAMENTAL STRATEGY

The United States is in a truly unique position in that nearly all U.S. allies are overseas. As such, military strategy has been one of a forward defense. Sealift is clearly an important aspect in the ability of the nation to maintain such a posture.

The current trends in the maritime industry can be viewed as alarming. Numbers of ships are declining. New construction orders to shipyards are declining and as a result the shipyard base is likewise shrinking from a lack of those orders. These trends will probably continue if U.S. policies and world-wide competition remain unchanged.

Recall for a moment, the basic policy objective that has guided the merchant marine since the Merchant Marine Act of 1920:

> ...That it is necessary for the national defense and the proper growth of its foreign and domestic commerce that the United States shall have a merchant marine....

In keeping with a forward deployed/defense strategy, about one-fourth of the U.S. land combat power is stationed overseas. Additionally, the remaining forces currently stationed in the United States would eventually have to be transported to the combat areas. Ships will carry the bulk of these forces, their equipment, and resupplies. It is estimated that ninety-five percent of the dry-bulk material and over niney-nine percent of all fuel would be transported by sealift. Could we do it? [2:xv-xviii]

In the meantime, do not forget that, while the merchant marine would be pressed into service supporting military forces, that same merchant marine would likewise be required to carry the vital raw materials needed to maintain the national economy. So not only must the shipping assets

available to the United States support the military, it must also continue to carry vital economic cargoes.

In citing the current state of the merchant marine and its ability to respond to an emergency, VADM William H. Rowden, Commander, Military Sealift Command stated:

> ...An even broader concern is this: A major conflict would likely see the requisitioning of the entire U.S.-flag dry cargo fleet for military use. And this does not begin to consider the shipping requirements associated with our economic security. The implications for our national security - both economic and military - should be clear. [24]

The requirements for vessels will be beyond what is currently available.

1. Shipping Requirements

Not all ships currently registered under the U.S.-flag would be necessarily useful to the military. From the standpoint of national security, one needs to make an important distinction between what is commercially economic and efficient, and what is militarily useful. In making that distinction, the most useful ships for supporting military operations tend to be:

a. relatively small - able to go in and out of shallow harbors and narrow channels;

b. flexible - able to carry a variety of cargoes, large and small; and

c. self-sustaining - able to load and off-load cargo without specialized shore facilities. [2:32]

In today's commercial market, vessels such as these do not lend themselves to being economically competitive. The commercial trend has been towards increased size and draft, the ability to carry larger amounts of cargo or containers per trip, and the requirement of specialized shore-side cargo handling systems. This applies to dry cargo, containerized cargo, and bulk carriers like the Very Large Crude Carriers (VLCC's) or super tankers. Private carriers seek competitive advantages through economies of scale, mostly large vessels, which is directly opposite of those features desired of militarily useful vessels. With the previously mentioned lack of funding of the CDS and ODS program cut-backs, private carriers will continue to seek these advantages.

From a military standpoint, the older-style, self-sustaining break-bulk freighters and the relatively small, clean-product tankers are more useful for military support. Table 4.1, compiled by the Maritime Administration and the

---

TABLE 4.1 MILITARILY USEFUL SHIPS IN THE U.S.-OWNED FLEET: SHIPS OF 1,000 GROSS TONS AND OVER AS OF 1 JANUARY 1984

Category	Total Ships	Militarily Useful Ships
U.S.-Flag		
Active Fleet	439	294
Inactive Fleet	349	325
Subtotal	788	619
Registered Abroad	602 (as of 1 January 1983)	84
Total, U.S.-Owned Fleet	1,390	703

[2:34]

Department of the Navy, shows the results of a recent assessment of militarily useful vessels owned by U.S. companies.

Considering the administration's objective of a 600-ship Navy, it seems that the Navy might be able to provide almost one-to-one protection for the militarily useful merchant marine!

In an attempt to estimate U.S. sealift requirements, the Department of Defense completed its latest study in early 1984, entitled the DoD Sealift Study. Although most parts of this study are classified, some unclassified portions have been released. As can be seen by Table 4.2, the bottom line indicates almost no change in the total number of ships available to the United States in time of emergency.

2. Shipbuilding Requirements

The importance of seapower and sealift are no less important today that they were at the outset of World Wars I and II. At the outset of those wars, massive shipbuilding programs were undertaken to meet the needs generated by wartime demand. The need to maintain a shipyard mobilization base is likewise no less important. As defined by the Navy and Maritime Administration, the functions of the shipbuilding industrial base are distinct during wartime and peacetime. During peacetime, requirements would be to:

a. ensure that Navy ships can be maintained in a high degree of material readiness and modernized with appropriate new equipment; and

TABLE 4.2 COMPARISON OF CURRENT AND PROJECTED FUTURE FLEETS

Dry Cargo Fleet

Commercial Fleet	1983	New Builds	Transfers In	Transfers Out	Scrap	FY 1988
Breakbulk/Partial Containership	89	0	0	33	2	54
Non-Self-sustaining Containership	90	33	0	12	24	87
Self-sustaining Containership	7	0	0	3	0	4
Barge Carrier	19	0	0	2	0	17
Container/Car Carrier	2	0	0	0	2	0
Container/Ro/Ro	1	0	1	1	0	1
Ro/Ro	16	0	0	1	0	15
Passengership	3	0	0	0	0	3
TOTAL	227	33	1	52	28	181
RRF						
Victory	1	0	0	1	0	0
Breakbulk/Partial Containership	24	0	21	2	0	43
Container/Ro/Ro	2	0	0	0	0	2
Containership (T-ACS) a/	0	0	11	0	0	11
Seatrain	5	0	0	0	0	5
TOTAL	32	0	32	3	0	61
NDRF						
Victory	129	0	1	0	0	130
Breakbulk/Partial Containership	4	0	17	2	1	18
Non-Self-sustaining Containership	4	0	4	3	1	4
Self-sustaining Containership	3	0	0	2	1	0
Seatrain	4	0	0	0	4	0
LST	10	0	0	0	0	10
Troopship/Schoolship	17	0	0	1	0	16
TOTAL	171	0	22	8c/	7	178
Navy-owned b/						
Breakbulk	2	0	0	0	0	2
Non-Self-sustaining Containership	8	0	0	8	0	0
TAKR	0	0	8	0	0	8
Ro/Ro	2	0	0	0	0	2
TOTAL	12	0	8	8	0	12
MSC-Chartered b/						
Breakbulk/Partial Containership	19	0	0	4	2	13
Container/Ro/Ro	1	0	1	0	0	2
Ro/Ro (incl TAKX)	5	8	5 d/	0	0	18
Barge Carrier	2	0	1	0	0	3
TOTAL	27	8	7	4	2	36
GRAND TOTAL	469	41	74	75	41	468

a/ Up to 11 have been identified for use as TACS. The FY 84-88 FYDP funds only 6; the remaining 5 are shown as containerships in the database.
b/ Carried under MSC fleet in database.
c/ Three ships to be transferred from MARAD to MSC for fleet ballistic missile carriers and one troopship for use as berthing ships.
d/ 5 foreign flag Ro/Ro chartered by MSC.

Source: Officer of the Assistant Secretary of the Navy (Shipbuilding and Logistics)
[Ref. 2: 96-97]

b. retain enough capability to maintain or increase the size of the Naval fleet and to build and maintain merchant ships consistent with the objectives of the Merchant Marine Act of 1936.

During wartime, requirements would shift to:

a. be able to support wartime needs for overhaul, repair and battle damage repair; and
b. provide the capability to build additional Naval and cargo ships and support a merchant marine needed for a war or national emergency. [2:54-55]

The peacetime requirements will be maintained through the DoD budget and normal commercial shipbuilding and repair contracts. The question is whether or not the wartime requirements can be maintained during peacetime to insure their availability when needed, if needed.

A recent study, conducted jointly by the Navy and Maritime Administration entitled the Shipyard Mobilization Base Study (referred to as the SYMBA study), suggests that the shipyard workforce should be fully one-third larger than just Navy work would support in order to deal with the workload that would be imposed upon mobilization. This increase in workload translates into 20 to 30 ships per year to be built in U.S. shipyards over and above what is currently contracted. As far as commercial orders go, that means 20 to 30 ships per year. [2:56-59]

B. MILITARY SEALIFT COMMAND - THE SHORT TERM FIX

The task of providing for the national security of the United States has been assigned to the Department of Defense. The specific task of providing the necessary sealift assets required to support the forward defense strategy of the United States has been assigned to the Military Sealift Command (MSC).

There are two principle sources for providing the required sealift assets: the ships of the U.S. merchant marine and the ships under the direct ownership and control of the U.S. government, namely the MSC controlled fleet and those ships in strategic reserve programs such as the National Defense Reserve Fleet maintained by the Maritime Administration. In analyzing the assets available in the merchant marine, it became apparent that some immediate improvement in the area of readily deployable assets was necessary. Commencing in the early 1980's, the government initiated several programs that would bolster the short-term surge requirements that were necessary to support a forward deployed strategy. These programs are on-going and are beginning to become operational.

1. Maritime Prepositioning Ships (MPS)

This program calls for the construction and/or conversion of thirteen cargo ships to be outfitted and fully supplied, sailing the oceans ready to respond whenever necessary on short notice. They will carry enough cargo,

equipment and supplies to support three Marine brigades for 30 days, and are designed to be fitted with cranes and loading ramps to sustain cargo operations under poor, unimproved port conditions. Eight of the ships are former commercial vessels, purchased by the government that are being thoroughly converted for their new role. The remaining five ships are being newly constructed. The first squadron is slated to sail in early 1985.

2. The Near Term Prepositioning Force (NTPF)

The forerunner of the MPS program, the NTPF was established in 1980 after an assessment of deployment capabilities to the regions of the world furthest away from the U.S. such as Southwest Asia and the Indian Ocean. There are currently eighteen MSC-controlled ships positioned in the Indian Ocean, Pacific, and Mediterranean. Although primarily stationary but ready to sail, these NTPF ships carry enough equipment and supplies to support one Marine brigade, plus material and ammunition for Army and Air Force units. This program is essential, intact, and in-place, ready to respond.

3. Fast Sealift Ships

Procured from the Sealand Corporation, a major U.S.-flag containership operator, these eight ships were acquired by the Navy in 1981. Due to high fuel consumption rates, these fast (33 knot) SL-7 ships became uneconomical for commercial operations. Their speed and size were

precisely what attracted Navy buyers. In this instance, the sale of the SL-7's benefitted both the commercial operator and the Navy.

These Fast Sealift Ships will remain berthed in the United States and will be capable of being activated and placed on berth within 96 hours. Within an additional 24 hours, these ships can be loaded with all equipment for an entire heavy mechanized Army Division. They are fast enough to transit to Europe in five days and to Southwest Asia in about two weeks. [24]

Designated as the T-AKR class Fast Sealift Ships, four of these ships have been converted to military use. Three more are due in 1985 and the last in 1986. All eight ships are being converted in U.S. shipyards. One of these ships, the Algol, was put to the test initially during the Reforger '84 Exercise in Europe. Sailing from Beaumont, Texas to Antwerp, Belgium, the Algol carried 271 tracked and 652 wheeled vehicles along with some 230 small military containers. [25:25]

4. National Defense Reserve Fleet (NDRF) / and the Ready Reserve Force (RRF)

In addition to upgrading on-line deployable assets, the Military Sealift Command is purchasing vessels in an effort to expand the Ready Reserve Force portion of the NDRF. The expansions is planned to take the RRF from its early 1984 level of 33 ships to at least 77 ships by

1988. Ships of the RRF are laid up in reserve on both coasts and are capable of being activated within five to ten days. In June of 1984, nineteen dry cargo ships were purchased by the Navy from U.S.-flag operators for the RRF and Requests for Proposals have been issued for more. [24]

The ships of the RRF are the first line of ships in reserve and they are relatively capable and of the type considered to be militarily useful. The issue of the NDRF ships is a separate matter. For the most part, these ships are of World War II vintage and they are the primary reason for the very old, average age of the U.S. merchant fleet. Although this fleet numbers 171 vessels (see Table 4.2), the majority (129) are Victory class ships, laid up at the end of World War II as vessels not sold or scrapped through the Merchant Ship Sales Act of 1946. These vessels are considered of value because they are self-sustaining break-bulk type vessels. Yet the fact remains, they are old, slow (15 knot) vessels that would require 20-60 days, if not longer, to activate. Therefore, the military usefulness, or more appropriately their ability to be useful, is of utmost concern. Currently, it is the opinion of some that these old NDRF vessels would be useful for only a one-way, one trip voyage carrying a relatively small amount of cargo. [26] If this is the case, are the old NDRF vessels worth the expense? Right now they are. There is nothing else to hold in reserve, but this fleet must be updated.

5. Other Enhancement Initiatives

Besides the active programs to build and convert vessels for direct military support, the Military Sealift Command has initiated programs to enhance the military usefulness of the current commercial fleet. Development and procurement of "sea sheds" and "flat racks" will facilitate the conversion of commercial containerships to militarily useful vessels by allowing them to carry cargoes that would not lend themselves to containerization such as tanks, howitzers, and other items.

Another program will help to solve the problem created by the large number of non-self-sustaining vessels. Modern containerships require sophisticated shore-side loading and unloading facilities. Current plans call for the conversion of eleven ships into crane ships, designated TACS vessels, which will be able to unload containerships in areas where adequate shore facilities are not available. [2:66]

Additional programs such as these are necessary. Not only must the government seek to have available the militarily useful vessels that it needs, but also plans and equipment must be available to make use of the U.S.-flag private fleet that already exists. With the limited number of vessels currently available, everyone must be ready and able to help support national security objectives. These current programs are an essential step in the right direction of providing the short-term assets that are currently missing.

V. LEGISLATIVE PROPOSALS

As outlined in Chapter IV, the immediate sealift needs of the military are being addressed and funded by the U.S. Navy. Although still significantly below a satisfactory level, military shipping assets are being improved, both in quality and in quantity. These direct, military improvements address only one facet of our nation's maritime needs. The economic shipping capability, provided directly by the privately-owned, U.S. merchant marine, has not been even adequately addressed.

The U.S. merchant marine faces not only lower-cost competition from foreign competitors, but rules and regulations as defined in U.S. law that further diminish their ability to compete in the international market. The symptoms are clear. The numbers of U.S.-flag vessels are decreasing. As can be seen by Table 5.1, the amount of cargo carried by U.S.-flag vessels is extremely low, both in tonnage and in total dollar value.

In order to reverse these alarming trends in the fortunes of U.S.-flag shipping, fundamental changes need to be undertaken in the form of regulatory reforms and new, revised programs. The changes must come through Congress. Innovation and productivity-enhancing breakthroughs can provide a competitive advantage only until a competitor can copy these and implement them himself. In facing an international

TABLE 5.1 U.S. OCEANBORNE FOREIGN TRADE/COMMERCIAL CARGO CARRIED

Calendar Year	Total Tons	U.S.-flag Tons	Percent of Total	Total Value	U.S-flag Value	Percent of Total
	(Tonnage in millions)			($ Value in Billions)		
1947	142.2	81.9	57.6	(Totals not available		
1948	139.0	67.0	48.2	for period 1947-1955)		
1949	133.2	60.3	45.2			
1950	117.5	49.7	42.3			
1951	193.1	76.8	39.8			
1952	187.9	64.4	34.3			
1953	178.0	51.7	29.1			
1954	177.0	48.7	27.5			
1955	226.2	53.1	23.5			
1956	260.1	53.9	20.7	20.6	7.0	33.8
1957	289.3	50.8	17.6	22.8	7.3	32.1
1958	253.3	30.9	12.2	20.9	6.0	28.6
1959	267.0	27.1	10.2	22.8	6.0	26.1
1960	277.9	31.0	11.1	24.7	6.5	26.4
1961	272.4	26.3	9.7	24.7	6.3	25.6
1962	296.8	29.6	10.0	25.9	6.5	25.1
1963	311.6	28.5	9.2	27.5	6.9	25.1
1964	332.8	30.5	9.2	30.0	7.7	25.8
1965	371.3	27.7	7.5	32.4	6.9	21.4
1966	392.3	26.2	6.7	36.4	8.2	22.5
1967	387.6	20.5	5.3	36.6	7.9	21.7
1968	418.6	25.0	6.0	41.1	8.5	20.7
1969	427.5	19.8	4.6	41.9	8.1	19.3
1970	473.2	25.2	5.3	49.7	10.3	20.7
1971	457.4	24.4	5.3	50.4	9.9	19.6
1972	513.6	23.8	4.6	60.5	11.1	18.4
1973	631.6	39.9	6.3	84.0	15.9	18.9
1974	628.9	40.9	6.5	124.2	22.0	17.7
1975	615.6	31.4	5.1	127.5	22.4	17.5
1976	698.8	33.8	4.8	148.4	26.4	17.8
1977	775.3	34.8	4.5	171.2	28.0	16.4
1978	777.0	31.9	4.1	195.8	30.7	15.7
1979	823.1	35.0	4.2	242.1	35.7	14.7
1980	772.2	28.2	3.7	294.3	42.3	14.4
1981	760.0	34.2	4.5	315.4	47.0	14.9
1982	675.5	31.1	4.6	281.2	43.5	15.5

Note: Table includes Government-sponsored Cargo; excludes Department of Defense and U.S./Canada translake cargoes.

Source: Maritime Administration, Office of External Affairs

market where competitors are heavily subsidized or receive preferential treatment by their nation's governments, the U.S. merchant marine must be afforded at least an opportunity to be competitive.

In an effort to promote a changing regulatory environment for U.S.-flag carriers, numerous legislative proposals have been bantered around the halls of Congress. The Shipping Act of 1984 is the only piece of maritime legislation to have become law in recent years. It is not a panacea for all that ails the U.S. merchant marine. Rather it is a step, and a relatively small one, in the right direction.

The following is a review of other legislative proposals either formally proposed in Congress or discussed as a possibility.

A. THE REAGAN ADMINISTRATION PROPOSALS

Faced with the problem of a dwindling merchant marine, Ronald Reagan, as a candidate for President in 1980, pledged to "revitalize the U.S. merchant marine". Once in office, the Reagan administration judged that the subsidy system, as outlined in the Merchant Marine Act of 1936, was not achieving what it was supposed to and that it was rather unlikely to ever do so. [22:22-25]

In May of 1982, Secretary of Transportation Drew Lewis announced the initial plan which included seven major policy positions supported by the Reagan administration. These policy options were coupled with the fact that the Reagan

administration had already cut direct subsidy support for the CDS program and indicated that no new ODS contracts would be negotiated. Most of these programs/options were greeted with enthusiasm by the carriers and labor interests, but were considered much less favorably by the shipyards. The plan was outlined in seven points.

1. Foreign-Build Option

The first option called for continuing support of an extension of the temporary authority (initially approved in the Omnibus Budget Reconciliation Act of 1981) for subsidized U.S. ocean carriers to construct or acquire their vessels outside the U.S. and still receive ODS. This option is still endorsed by the administration and it is heartily supported by carriers, and likewise heartily opposed by the shipyards.

2. Eligibility For Government Cargo

Hand in hand with the first option, this revision would provide immediate eligibility for reflagged or foreign-built U.S.-flag vessels for the carriage of government-impelled cargoes. There currently exists a three-year waiting period for vessels procured in this manner before they are eligible to carry these cargoes. [20:18]

3. Administrative Reform of ODS

To be accomplished by the Department of Transportation and MARAD, these administrative reforms would primarily be implemented to increase carrier operating flexibility

and to reduce the program's costs. Carriers have often complained that the management controls and reporting requirements tied to the differential subsidies have increased their costs. In this respect, the overall effectiveness of the programs has been reduced just by the cost of the paperwork and special requirements that an operator must go through just to obtain the subsidy.

Although no specific procedures/plans have been proposed, the potential for streamlining ODS and CDS payments exists so that dollars would be spent in their intended use rather than paying for the additional administrative requirements.

4. Foreign Investment

Change in this policy would encourage foreign investment in U.S. shipping and permit the current 49 percent foreign ownership in U.S.-registered ships to be increased to 75 percent. This could possibly attract much needed capital while still retaining U.S. management control.

5. Duty On Repairs

The purpose of this change would be to relieve U.S-flag ships of the current 50 percent ad valorum duty on repairs carried out in foreign yards, thereby providing increased flexibility for ship operators in making repairs, while at the same time reducing repair costs. It should be noted that in some instances, the cost of foreign repairs,

plus the 50 percent ad valorum tax, is still cheaper in some cases than accomplishing those repairs in U.S. yards.

6. Reduced Regulation

Reduction of unnecessary regulations in the ship-building and ship operating industries is desirable. The Shipping Act of 1984 incorporates a beginning of efforts in this area. Additionally this proposal calls for the establishment of a top level government/industry group to study and recommend further possible reductions. [22:22-25] It should be noted that this proposal has been implemented. Funds were provided by Congress in the FY85 Defense Authorization Bill for the establishment of a Merchant Marine Defense Commission. Although results from this Commission will not be expected within the next year, even the establishment of such a Commission is a step in the right direction. [27]

7. Rate Regulation And The Domestic Trade

The last proposal for maritime reform put forth by the early Reagan administration encouraged the elimination of FMC regulations governing the rate levels of liner companies in the U.S. domestic trades reserved under the Jones Act. This proposal did not include any relaxation of the cabotage laws themselves. [20]

All of these first seven proposals have proven to be controversial with heavy support and vocal opposition being offered on almost every proposal. With the exception of

(1) the one-year option to build vessels in foreign yards and flag U.S., (2) the Shipping Act of 1984, and (3) the future formation of the Merchant Marine Defense Commission, little has been accomplished within Congress. Not only must legislators consider the opposing views of the shipbuilders and the ship operators, but the vested interests of various shippers' groups likewise impact on the legislative process.

B. OTHER LEGISLATIVE PROPOSALS

In addition to the initial seven-point plan, several other proposals have surfaced. Unfortunately, like the original seven, none have received the support of all parties involved with the merchant marine industry.

1. Foreign-Build and Capital Construction Funds

Having witnessed the apparent success of the one-year relaxation of the restrictions on foreign procurement of vessels when 34 ships were ordered from foreign yards, legislation was introduced into Congress in 1983 under H.R.3156, the Build Foreign Bill, which not only proposed to authorize the build-foreign option permanently, but also included the provision that ship owners should be allowed to use the tax-deferred Capital Construction Funds (CCF) to help pay for the ships. Again ship owners supported this bill while the shipbuilders strongly opposed it. The result was the same: no legislation passed Congress. [28]

2. An Energy Conservation Program

In an effort to introduce some legislation that would favor the shipbuilding industry, one proposal called for the conversion of older steam-driven vessels to the more fuel efficient, automated diesel-driven propulsion, providing grants, similar to CDS funds, for the conversion of these vessels in U.S. yards. The long term benefits would be in reduced operating expenses for the ship owners by reducing manning requirements as well as lowering fuel costs. In the short-term, the shipyards would benefit with much needed work. As an additional incentive, a special energy tax credit would be granted for those companies that entered in such a contract. This program was strongly endorsed by the shipbuilders associations. [29]

3. A Maritime Redevelopment Bank

Most recently, H.R.3399 was introduced into the Congress proposing a Maritime Redevelopment Bank of the United States with the purpose of restructuring of certain credit programs to promote innovation, increased productivity, competitiveness and capital. This bank would not be a government agency, but a private, for-profit corporation with the purpose of stimulating private investment with the purpose of enhancing the economic, trade, and national security of the United States. As an amendment to the Merchant Marine Act of 1936, the bank would incorporate the funds from the Capital Construction Fund, money from

the Federal Ship Financing Fund, and funds made available from the sale or trade of vessels for the government-owned fleet and would be under the management of businessmen, eventually elected from the stockholders.

Not only would the bank be responsible for managing the funds of various maritime programs, it would also fund research and development of plans for vessels, updating shipyards while at the same time being managed to obtain a profit for its shareholders. Although not enough time was present in the 98th Congress to affect this bill's passage, it will surely be resurrected in the future. [30]

4. The Competitive Shipping and Shipbuilding Act of 1983

Initially introduced by Congresswoman Lindy Boggs, and co-sponsored by 82 of her colleagues, the Competitive Shipping and Shipbuilding Act of 1983 (H.R.1242) was designed with the purpose of reversing the decline in the U.S. merchant marine by encouraging greater use of U.S.-flag ships through cargo preference, particularly the transport of bulk cargoes. Key requirements of this proposal were:

a. cargo reservation of five percent of bulk exports and imports for U.S.-flag, U.S.-built ships, starting in the first year after enactment and increasing by one percent annually thereafter until a minimum of 20 percent is reached, and

b. 15 percent reduction in U.S. ship construction and operating costs, primarily as a result of series production of new ships and technical, automation improvements allowing crew sizes to be smaller. [31:1-1,1-9]

Obviously the shipbuilding industry strongly supported this legislative proposal. Although not as vocal in their support, ship operators also supported this bill. Opposition came from those members of Congress whose constituents comprised the shippers who would have been required to ship their goods and products by higher-cost, U.S.-flag vessels.

In her personal justification of H.R.-1242, Mrs. Boggs emphasized in a speech before the Washington, D.C. Propeller Club on February 4, 1983, that:

> "Some critics of this legislation will say that cargo reservation will damage our credibility as the world's leader in free trade, but I think that in the real world of 1983, we must recognize that international shipping services are not governed by a free and open market. Past reliance on free market mechanisms has placed the American merchant marine at a serious competitive disadvantage and has been partly responsible for the dangerous decline in our fleet." [32:2]

This assessment by Mrs. Boggs regarding the world market is probably accurate. However, the cost of cargo preference to U.S. shippers seems to have been the major obstacle for this bill's passage.

In assessing the economic affects of cargo preference laws, primarily agricultural, already in existence in 1980, the General Accounting Office (GAO) estimated that those

cargo preference laws, which dealt primarily with government sponsored cargoes, cost the U.S. government at least $72 million for higher ocean transportation costs in the shipment of 2.3 million tons of civilian cargo out of a possible 12.4 million tons of government-impelled cargo shipped in 1980. [33:24] The costs of cargo preference of 20 percent would be much greater and would be borne by the shippers, not the government. H.R.-1242 has not yet passed.

In an effort to resurrect this type of legislation, a new version, H.R.-6222, was introduced into Congress in September, 1984. Although there was little hope for its passage before Congress adjourned, H.R.-6222 was introduced with some important modifications. The bill retains the steady build-up in cargo preference to a maximum 20 percent, but now it would give importers and exporters using U.S.-flag vessels a credit for their added freight costs against taxes. Although the administration's position is to oppose both commercial cargo preference and tax credits as incentives, this bill will receive increased scrutiny in the next Congress. [24]

In introducing H.R.-6222, Representative Herbert H. Bateman, R-Va., said:

> "We cannot do what has been suggested in the past - we cannot make our farmers, our miners, our oil producers, and our consumers alone bear the cost of our merchant marine...What we can finally say is that the cost of the merchant marine is a cost of national security. It must be paid for by all Americans." [24]

The future of legislation of this type remains to be seen.

C. CONGRESSIONAL BUDGET OFFICE OPTIONS

In August of 1984, at the request of the Senate Committee on Armed Services, the Congressional Budget Office (CBO) issued a report entitled U.S. Shipping and Shipbuilding: Trends and Policy Options. In analyzing the current situation of the U.S. merchant marine, the CBO report concluded that measures to support the maritime industries take three basic forms: subsidies, cargo preference, and direct government procurement of cargo ships (see Table 5.2).

Subsidies can be either direct or indirect. Direct subsidies, like CDS and ODS, are straightforward and visible, but believed to distort market incentives and foster inefficiencies whose costs may exceed the direct cost of the subsidies. Indirect subsidies, such as tax incentives and financing support, are less visible and less precise in accomplishing their desired objectives. Indirect subsidies are also believed to result in inefficiencies but all subsidies do allow policy makers some control over markets in order to accomplish national objectives. [2:68-69]

Cargo preference is also an indirect form of support, but the costs are borne by the economy as a whole, not a government budget line item. The objective of cargo preference is to create a market which will develop resources, shipbuilding and U.S.-flag shipping, to serve that market.

Cargo preference may be unilateral, such as the Jones Act, or by mutual agreement by trading partners. A major

TABLE 5.2 FORMS OF SUPPORT FOR MARITIME INDUSTRIES

Form of Support	Type	Examples or Characteristics
Subsidies	Direct	Operating Differential Subsidy
		Construction Differential Subsidy
	Indirect	Tax incentives Financing support
Cargo Preference	Unilateral	Cabotage (Jones Act) Government-impelled cargo shipments Specified market share (Boggs Bill)
	Bilateral and multilateral agreements	Bilateral trade sharing UNCTAD multilateral norms
Direct Government Procurement, Operation, and/or Lease of Cargo ships	Emphasizing commercial competitiveness	Large, specialized, non-self-sustaining cargo ships Minimum operating costs
	Emphasizing military usefulness	Smaller ships with cargo capability and self-unloading ability

Source: Congressional Budget Office

[2:69]

development in this area is the adoption by many nations of a "Code of Conduct for Liner Conferences" by the United Nations Conference on Trade and Development (UNCTAD). This code would reserve a portion of each trading nation's cargo for its national-flag carriers on a 40-40-20 basis. Forty percent of the trade would be carried by each of the trading partners with twenty percent left for third parties. The United States has consistently opposed this UNCTAD code but has entered into bilateral agreements with other nations when U.S-flag carriage of cargo has been threatened by other nationalistic tendencies. [2:69-70]

Cargo preference is widely used and its impact must be dealt with, particularly in the future if the UNCTAD code takes effect. It is a form of support that must be closely monitored though as it may not achieve the desired results. If the purpose of such legislation is to encourage the building of vessels that were militarily useful, that end might not be achieved. [2:70]

Direct procurement by the government, which is authorized in law by Title VII of the Merchant Marine Act of 1936, could produce exactly the numbers and kinds of ships the government desires. Although procurement would involve direct budgetary support, ideally the ships could be leased to commercial operators and thereby provide some return on the government expenditure. [2:70-71]

Based on the projections of the DoD Sealift Study and the Navy/MARAD sponsored SYMBA (Shipyard Mobilization Base Assessment) study, CBO determined that a common objective of any option would be the inducement of construction in U.S. yards of about twenty cargo ships per year and their subsequent operation under U.S. registry. Twenty ships per year could eventually sustain sealift requirements while at the same time maintain a shipbuilding industrial base that might be needed in the event of wartime mobilization. Additionally these ships would provide an expanded pool of trained mariners.

1. Option I: Subsidies

This option would reinstate the now unfunded CDS to stimulate private investment by shipping companies to build about twenty new ships a year in U.S. yards, and would use ODS to supplement their operation. In order for this option to work, operators would have to perceive a sufficient market opportunity. Additionally, vessels would be constructed to maximize commercial economy and efficiencies. As such, these ships would probably be of limited military usefulness. Costs for such a program would increase over time as more ships came on line, receiving ODS. [2:72-73]

Table 5.3 outlines the general impact of each of the primary options.

TABLE 5.3 OPTIONS TO INDUCE CONSTRUCTION OF 20 MERCHANT SHIPS ANNUALLY IN U.S. SHIPYARDS (COSTS IN 1984 DOLLARS)

Options	Estimated Average Annual Cost	Commercial Efficiency of Ships	Military Usefulness of Ships	Peacetime U.S.-Flag Ship Activity
Subsidies (I): Use CDS and ODS to induce building and operating 20 ships per year. a/	$1.0-1.5 billion	High	Low	Higher
Cargo Preference (II): Boggs Bill approach. Induce commercial orders for about 20 ships per year	$3.0-4.0 billion	High	Low	Higher
Direct Government Procurement (III): Procure 20 ships per year, operate in MSC, lease out, or assign to Ready Reserve Fleet. b/	$1.5-2.0 billion	Low	High	Moderately higher

Source: Congressional Budget Office

a. CDS = Construction Differential Subsidy. ODS = Operating Differential Subsidy.
b. MSC = Military Sealift Command.
[2:78]

2. Option II: Cargo Preference

Cargo preference is widely used by many nations. In the CBO study, cargo preference would include those laws in effect and additionally include passage of a bill, such as the "Competitive Shipping and Shipbuilding Act of 1983" (H.R.-1242), or its recent follow-on H.R.-6222 as reviewed earlier. This would gradually increase the required portion of cargo reserved for U.S.-flag ships to twenty percent. This option has been supported by both the shipbuilders and the shipowners, but its probable adverse impact on shipping rates has resulted in opposition from importers and exporters. CBO estimates that the cost of this type of legislation, by the time the full twenty percent cargo reservation is reached, would be between $3.Ø billion and $4.Ø billion per year, primarily as as result of increased transportation costs. [2:73-74]

As with Option I, ships built as a result of this measure would have to compete with each other and they would, therefore, be designed to emphasize commercial efficiency, not military utility. The CBO estimates that enactment of such legislation arrangements would result is construction orders between 2Ø and 3Ø ships per year.

3. Option III: Direct Government Procurement

The government would contract for the construction of cargo ships directly from U.S. yards under this option. These vessels might then be made available for lease to

U.S. commercial operators at whatever rate the market might bear. Although it would be foolish to assume that leasing revenues might recover the expense of construction, it would recover at least some of the expense.

This option would again result in the construction of around twenty ships per year, the same as the other options, with the same resulting benefits. The most positive aspect of this option would be that the vessels constructed would be designed to be militarily useful, filling the gap in strategic sealift assets. In the event that the commercial market could not support these additional vessels, these ships could be laid up as a ready asset in the Ready Reserve Force. [2:75-77]

4. Alternatives on the Options

Looking at alternatives, it may not be fiscally possible to finance the construction of twenty government-sponsored ships. Ships could be acquired from the commercial market, as is currently being done with vessels being purchased for the RRF. This alternative does, however, substantially reduce the amount of work available for the shipbuilding industry. Along these lines it might be advisable to acquire and build on an equal basis.

Several approaches might be blended. Partial implementation of the CDS, procurement of militarily useful vessels, even the procurement of commercial vessels built overseas are all possible. Such a blending might serve some

of the need of the various maritime industries, yet their combined effect would be somewhat lessened. [2:79-80] Table 5.4 outlines the alternative policy options.

TABLE 5.4 OTHER POLICY OPTIONS (COSTS IN 1984 DOLLARS)

Option	Estimated Annual Cost	Emphasize Commercial or Military Utility	Shipbuilding Industry Effects	Merchant Marine Effect
Procure ships on open market, lease out or assign to RRF 20 ships/year/a/	$30-300 million	Military	Modest, conversion work only	Moderately positive
Build half in U.S. and procure half on open market, 20 ships/year	$900-1,200 million	Military	Positive	Moderately positive
Administration program plus CDS plus open market procurement b/	$500-700 million	Commercial and military	Positive	Positive

SOURCE: Congressional Budget Office

a. RRF = Ready Reserve Fleet
b. CDS = Construction Differential Subsidies. Open market procurement may not result in 20 ships per year in U.S. shipyards.

5. CBO Conclusions

In its concluding remarks, the CBO study notes, considering the current, competitive world market:

> "...the ability of the private sector to support the national security sealift requirements is becoming increasingly questionable...Selection among them (the various policy options) should probably be governed by weighing basic objectives, especially commercial efficiency and military utility...If the key policy objective were the maintenance of enough U.S. shipping and shipbuilding to provide an adequate base for national security requirements, direct procurement would guarantee ships that would be military useful. If the key policy objective were, rather, to maintain more peacetime shipping for the U.S.-flag fleet, then cargo preference or direct subsidies would offer advantages." [2:80-81]

Overall, any of the alternatives or policy options, whether it be those addressed by the CBO study or those currently being addressed in Congress, will not win the support of each and every facet of the maritime industry. But decisions need to be made and Congress needs to act. The results lie in the future. One thing is certain; no action will result in a continuation of the decline of the U.S. merchant marine, its shipbuilding base, and the ability to man vessels.

VI. INDUSTRY OPINIONS

A. BACKGROUND

> "It is difficult to appreciate the importance of such a transoceanic pipeline until you are in a foreign country, 10,000 miles from home, surrounded by enemy troops, and waiting for life-saving supplies to arrive." [35]

These were the remarks of Mr. Jerry Cople of SEA-LAND Services, Inc., delivered in a speech before the National Defense Transportation Association's Annual Forum, held in September, 1984. It reflects the fact that the members of the maritime industry have not lost sight of one of the inherent responsibilities of their business. He continued:

> "I believe we all agree...that ocean transportation and our national defense have traveled hand-in-hand since our country's beginnings, and they will continue to be intertwined as long as we are committed to preserving our national security." [35]

Although that purpose is still desirable, the fact remains that today's U.S. merchant marine has moved away from national security considerations in its operations. Faced with increasing costs and lower-cost competition, U.S. operators have sought technological advantages through innovation. In the last several decades, that innovation has been in the area of containerization, and larger vessels seeking economies of scale. The effect has been that ship design has, out of necessity, emphasized economy and efficiency. The U.S. shipping companies that have been able to afford the necessary capital investments in new,

competitive vessels have survived. There are far more who have not survived. The result, as indicated earlier, is a merchant marine that is decreasing in numbers, while at the same time increasing in cargo carrying capacity. Table 6.1 reflects the U.S. merchant marine's position in comparison with other merchant fleets of the world. The trend must be viewed as alarming.

Members of the maritime industry have widely varying opinions on which options or steps need to be taken. Many of their differences are generated by their relative positions, whether they be shipbuilders or operators, in the foreign or domestic trade, a liner or bulk carrier. Nevertheless, their opinions need to be evaluated.

As a general rule, most U.S. Naval officers are unfamiliar with matters concerning the merchant marine, the problems they face, and in general the world-wide shipping market. During the research for this thesis, it was discovered that, for the most part, members of the maritime industry were just as unfamiliar with Navy operations and military needs. Even though both ply the same seas, there appears to be little communication. Hopefully, this thesis will provide some insight from at least one aspect.

B. PRIORITIES - ONLY ONE: PROFIT

One very important differentiation between the private fleets and government-owned fleets is that the private fleets exist to make money. In order to do so, they must be

TABLE 6.1 MAJOR MERCHANT FLEETS OF THE WORLD -- JANUARY 1, 1983.

Country	No. Ships a/	Rank by No. of ships	Deadweight Tons	Rank by Deadweight Tonnage
Liberia	2,145	4	140,293,000	1
Greece	2,604	2	68,868,000	2
Japan	1,775	5	63,665,000	3
Panama	3,141	1	56,288,000	4
Norway	577	10	36,237,000	5
United Kingdom	816	6	32,067,000	6
U.S.S.R.	2,482	3	22,457,000	7
United States (privately owned)	573	11 b/	21,647,000	8
France	318	19	17,422,000	9
Italy	605	8	15,747,000	10
Singapore	588	9	12.942,000	11
Spain	517	12	11,924,000	12
China (People's Rep. of)	811	7	11,798,000	13
Germany (Federal Rep. of)	439	15	10,381,000	14
India	385	16	9,826,000	15
All others: c/	7,726		140,413,000	
Total	25,482		671,093,000	

a. Oceangoing merchant ships of 1,000 gross tons and over.

b. Includes 259 United States Government-Owned ships of 2,756,000 dwt.

c. By number of ships, Korea (Republic of) ranked 13th with 474 vessels aggregating 9,552,000 dwt., and the Netherlands ranked 14th with 454 vessels aggregating 7,645,000 dwt.

SOURCE: Maritime Administration

competitive either in price or in service, preferably both. and ship operators survive on their ability to return a profit. They have to have freight. They have to be building. For shipyards in particular, once a capability is lost, it is very difficult to reestablish. [26]

Even if ship construction and operating costs were fairly equal between nations, the U.S. merchant marine is still at a disadvantage. That disadvantage is in the form of regulation, or lack of it. From an operator's standpoint:

> "...the layman does not recognize that countries like Taiwan, Japan, Singapore, China, and others, they are developing fleets of vessels, and I mean large fleets. That gives them an influence throughout the world. And the U.S. (shipping) is shrinking up to nothing. These fleets are being developed and, in some cases, they are subsidized by their governments. In some cases, there is absolutely no profit motive. They are not commercial in nature, but rather an attempt to provide an influence, to provide a posture in the world. And once they control more and more of the freight, more and more of the ability to handle the freight, the influence of the United States goes down and down and down." [37]

In the opinion of some operators, the U.S.-flag vessels are extremely over-regulated, even though the Shipping Act of 1984 is widely considered to be a step in the right direction. Particularly in the foreign trade, rebates and kickbacks are a way of life, an accepted way of doing business that goes against our ethics. What is needed is regulation that is more realistic and that would allow the carriers to conduct its business in the way it is done throughout the world. [38] This idea of playing by the same set of rules was echoed by several members of the industry.

In the liner industry, it was stated that:

> "If we can compete, under the same rules, we can go out and get forty percent of the freight ourselves, just by being good, commercial businessmen. We can do that! Today!" [37]

In summing up the wide range of opinions regarding competition in the world market, the U.S.-flag companies do not appear to be at all afraid of competition. Quite the contrary, they encourage it. But what is needed is change in the regulatory restrictions facing the U.S.-flag carriers. Some regulatory oversight may be needed to insure fair play, but the maritime industry does not just compete with other U.S.-flag companies unless they are involved solely in the domestic trade. It is difficult for a regulated, U.S.-flag company to compete with another national flag carrier who is not necessarily profit motivated and who does not play with the same set of rules.

These aspects of the industry must be recognized and dealt with. It requires a coordinated policy that must be enforced and supported by all government agencies, not just the DoD and DoT. The State Department, Agricultural Department, Commerce Department, and others must present a united, one-government stand. It hasn't happened in the past. The trends of our merchant marine show the results.

C. PROPOSED LEGISLATION

As could well be imagined, there are widely differing opinions on what course of action the government should

set itself in order to reverse the declining trends of the U.S. merchant marine. What follows is a summary of the combined industry thoughts on various support measures.

1. Subsidies

In almost unanimous agreement, industry representatives who were interviewed indicated that the CDS is not a good option. It is recognized, even by the shipyards, that American shipyards are not going to survive building commercial vessels alone. CDS is viewed by some, probably accurately, as a cause of the higher cost for shipbuilding in U.S. yards.

> "Subsidies are not the answer. I agree that subsidies cause inefficiencies, CDS and ODS basically, because there is not incentive to be very competitive because there is somebody filling the non-competitive gap...In the long term, it doesn't help the shipyards." [36]

Regarding the ODS, as long as U.S. carriers are forced by regulations to compete on an unequal footing with other national-flag carriers, the ODS may be the only method of equalizing costs.

Other proposed policy options (the authority to build vessels in foreign yards, use of CCF funds to build foreign, repeal of the ad valorum tax on repairs accomplished overseas) should be passed provided that there has been some consideration of what shipbuilding and industrial capacity is necessary. If it is assumed that the reason that one has the capability of building and repairing ships in the

United States is for defense, then that capability for non-defense needs is not required. As long as the capacity determined to be required of the shipbuilding and repair base is maintained, then there should be no reason not to build other commercial vessels overseas where ship operators could obtain the same price as their competitors. [36]

Overall, the option to reinstate full funding for the CDS and ODS as presented in the CBO study is considered to be an inefficient manner in which to proceed as voiced by the industry representatives that were interviewed for this study.

2. Cargo Preference

Conflicting opinions surround the policy option of cargo preference. Cargo preference is widely viewed as a means to eliminate foreign competition and thereby increase the number of vessels in the U.S. merchant marine by insuring a guaranteed amount of cargo.

The CBO study recommendation was along the lines of the Boggs Bill, which addressed more the oil and bulk trades. Again, depending on one's point of view in the industry, the views on the Boggs Bill were quite different.

From inside the oil trade, one major carrier that uses primarily foreign flag of convenience vessels stated that the Boggs Bill was:

> "...a protectionist piece of legislation from an industry that can't get its act together. Industry has no right to saddle the consumer with these very heavy costs..." [39]

Obviously, passage of such a bill would require a great deal of shifting of assets for those companies who maintain large fleets with foreign registration. Provisions would have to be included in the bill as well to authorize the reflagging of vessels to participate in the trade, such that the end result might be that ships would not be built anyhow, just reflagged. That would do nothing for the shipyards. Differing opinions abound as well from a partial implementation approach. Other representatives justify their support for the Boggs Bill because:

> "...everybody else in the world does it. Every nation in the world that has ships instructs their people to ship so much in their national ship. We are the suckers of the world. But if the other guy has this advantage, then you have to do something about it...we should consider cargo preference somewhere along the lines of the UNCTAD agreement, not UNCTAD itself, but cargo preference to protect American shippers." [38]

Others would take the cargo preference even further by negotiating bilateral shipping agreements. But just as can be seen from these remarks, there is no unified position on the subject and there likely will never be. The issue is so mixed up with politics, it hard to get a good response, much less a consensus.

One important consideration is that vessels that would be built in response to the increased cargo reserved to be carried on U.S.-flag vessels would stress economic efficiency and not military utility. The commercial drive is to efficiency and that brings you to large vessels and,

in some cases, slow vessels not designed for military use but for commercial trade. [39]

3. Government Procured Shipping

As outlined in Option III of the CBO study, it was believed that government procurement option would at least provide some return on investment, and would, to the extent that they would have U.S. crews onboard, provide some positive benefit. If subsidies and cargo preference do not result in the vessels that the government needs or desires, then direct government procurement needs to be seriously considered. [39]

Some argue that government designed and procured ships would be extremely costly: first, because they would be built in U.S. yards, and secondly, because of all of the "junk" the military would want to put on them. [37] Others counter that a standard design, built with series construction methods similar to those used by the yards during World War I and II, and adopted by the Japanese, could reduce costs in the long run. [37] Still others are convinced that direct procurement would provide both a sound logistics force as well as training platforms for mariners.[26]

There do exist, however, some significant possibilities. If these vessels could be designed to maximize both commercial and military utility, a compromise might be achieved. If the purpose was to build vessels and then lease them to commercial operators, then these vessels must

be commercially viable. But the design needs to be a joint design. If a vessel is built to maximize military usefulness, it won't be chartered because it would be unable to return a profit. If vessels built were designed to be economically efficient, military utility would suffer. Why not start with a design that could do both? It is possible if defense planners seek industry input and ideas. [38] Why not, indeed?!

D. NATIONAL SECURITY AND THE MERCHANT MARINE

> "I think it is important that we know what the military would like to see for vessels...we never got any response on that!" [39]

> "We made a suggestion to have the military design a logistics support ship that they would require, and to submit it to us for comment...The attitude in the Navy is still, don't tell us how to do our business." [38]

> "What are the needs? What capacity do we want in the private sector? I would like to know too." [36]

These remarks reflect much of the current thinking with the U.S. merchant marine industries. They leave an impression of confusion, frustration, and genuine concern. Confusion exists in that there seems to be no firm direction or policy. No dialog exists between the carriers and the military except in the form of special interest lobbying groups communicating primarily with Congress.

Frustration is building. Many individuals have expressed their own concerns with little to no response. And genuine concern is growing. As members of the maritime industry, they, too, are alarmed by the trends of their industry.

As their numbers, both shipyards and shipping companies, get smaller and smaller, they realize that they might be the next to disappear from the ranks of the industry. They realize that one of their inherent tasks would be to support our nation in time of emergency.

The size, composition, and condition of the commercial fleet is crucial to military planners and logisticians. But those considerations should not be left to the commercial forces at work in the market, at least not any longer. The separation between economic efficiency and military utility has grown to the point where they are almost mutually exclusive. Joint civilian and military planning is a must for the future. The civilian maritime industries appear to be willing to cooperate. Government planners need to seek their input.

Along these lines, one of the primary connections between the government and members of the maritime industry is the Maritime Administration. The mere mention of MARAD with some of the members of the industry who were interviewed yielded some surprizing comments.

> "MARAD is a toothless tiger. Frequently they are a bigger problem than they are an assistance. Its absolutely a crime" ..."There is a bunch of lost leaders. They wallow around with indecision."[1]

These remarks reflect a disturbing attitude by members of the maritime industry of the government agency

---

[1]Specific reference is deleted in order to safeguard the identity of those who made these frank comments.

whose sole purpose and charter is to promote and administer programs designed to foster a healthy and viable U.S. merchant marine. It seems as if MARAD has lost a great deal of credibility. Even efforts to upgrade the NDRF and RRF have been assumed by the Navy, yet maintaining the NDRF is MARAD's responsibility.

Short of providing industry statistics and administering financial maritime support programs, MARAD seems to have lost its influence, particularly with the ship operators. Without meaningful communications between MARAD and the industry, it is doubtful that the current problems facing these maritime industries can be adequately addressed, short of lobbying directly with the members of Congress.

Some recommendations on this issue will be discussed in the next chapter. At this crucial time in our maritime history, the role of MARAD needs to be addressed and reemphasized.

VII. CONCLUSIONS

A. GENERAL

An effort has been made in this study to examine the very nature of the merchant marine, its history, its problems, and its future. The history is clear. The trends describe accurately how the merchant marine has evolved to its present condition. The outlook for the future, if the trends are allowed to continue, is not good. Action needs to be taken. As can be seen by analyzing the effects of past legislation, the results are not immediately measurable. In other words, if any meaningful legislation were passed today, its overall success or failure might not be judged until well into the 1990's.

In making decisions regarding the future of the merchant marine, one needs to evaluate the goals or objectives that are intended to be achieved. Are the goals commercial in nature or based in the context of national security? Is the policy still as stated 48 years ago, or has it changed? Is it indeed necessary for the national defense and development of foreign and domestic commerce, to maintain a merchant marine? Does the merchant marine carry a "sufficient" amount of the nation's cargo? Is the merchant marine capable of serving as a Naval and military auxiliary in time of war or national emergency? Are there sufficient numbers of the right kinds of ships, mariners to operate them, and

facilities to build and repair them? Unfortunately, the answer to all of these questions, except for the first one, is probably no.

Shippers will always be assured of having vessels to carry their trade. There just might not be many U.S.-flag vessels from which to choose. The lower-cost, subsidized foreign-flag vessels will be available. That is fine as long as the only consideration is low-cost, commercial transportation.

Examine for a moment the possibilities. If there is no U.S.-flag shipping, would foreign-flag vessels carry the military cargo overseas if it were needed to support the one-third of the nation's troops who are forward deployed? If there were no U.S.-flag shipping, would not other nations be capable of driving shipping prices up for U.S. cargoes? These are distinct possibilities. The United States cannot afford to let the merchant marine continue to decline.

B. EVALUATION OF LEGISLATIVE OPTIONS

1. Subsidies

Funding of the Construction Differential Subsidy is no longer an issue. Not only would CDS not result in the types of vessels that would be militarily useful, its funding would not produce a sufficient number of new construction ship orders for U.S. shipyards. The 1981 relaxation of the requirement that U.S.-flagged vessels

be built in U.S. yards resulted in thirty-four new orders being placed with foreign shipyards. It is apparent that U.S. shipowners would like to purchase more in order to update their fleets.

The first of these foreign-built vessels are now becoming operational. As an example, American President Lines (APL) has received the first of its 2,700 TEU (Trailer Equivalent Unit) containerships built in Japan. These ships are U.S.-flag and truly cost competitive. Not only will these vessels receive ODS, further enhancing their competitiveness, they also will be manned with a crew of 21 personnel. Normally a vessel of this size would be manned with a crew of 34. [40:52-54]

The lesson is clear. American ship operators cannot be responsible for maintaining U.S. shipyards. The option to fully fund the CDS program would be a mistake. History has proven that the intended benefits have not been achieved.

The proposal to build-foreign should be authorized. In addition, every possible advantage should be authorized to help U.S. ship operators. These include:

- -the use of CCF to fund foreign construction,
- -repeal of the 50 percent ad valorum tax on foreign repairs,
- -immediate eligibility for ODS and government-impelled cargoes, and
- -increase the statutory limit on foreign investment from 49 percent to 75 percent.

These proposals would enhance the U.S.-flag competitive position in the world market. Without the opportunity to be competitive, investment in U.S. shipping will continue to decline. These barriers to entry into the shipping market must be removed.

These measures will also indirectly benefit the maritime labor problem. None of the vessels now being held in the NDRF and the RRF will be of any use without the sea-going personnel to man them. Even though none of the legislative proposals address the sea-going labor problem specifically, it is a definite consideration. The ship operators are pressing for reduced manning as APL did with its new containerships. Reduced manning levels are necessary in order for U.S.-flag vessels to be competitive. The answer for U.S. mariners has to be more ships on which to sail, not more positions on existing vessels.

Commensurate with the drop in the number of U.S.-flag vessels, sea-going billets have decreased even more drastically. From a high of 168,000 billets after World War II, the numbers have dropped to 49,000 by 1960, to 18,828 by July of 1982, and according to the Marine Bureau Index, the figure for 1983 was 17,170. Not only has the number of billets decreased, the average age of seafarers has also risen to 54 years. [41:54-56] Only one thing can reverse this trend: more ships.

Every competitive advantage possible must be considered. What is probably more notable, is the fact that the passage of these options would not cost the government anything. No government outlays are involved. The only revenue that would be lost would be the taxes foregone by authorizing the use of the CCF to purchase foreign-built vessels. U.S. shipyards will not survive based on commercial shipbuilding orders resulting from CDS because there won't be enough of them. The demand for new construction vessels exists as was demonstrated in 1981. U.S. operators want to build more vessels, but in overseas yards. In order to reverse the decline of the U.S. merchant marine, this is a mandatory first step.

Although the CDS has been eliminated as an option, ODS still deserves strong consideration for continued funding. Reduced ODS funding levels may be in the future, but these lower levels would only provide crew size parity, not cost parity. American crews have different standards of living that require substantial compensation. This cost cannot be carried by the ship operators alone. Operating cost parity needs to be approached. ODS is the vehicle that has been used in the past.

Another alternative that must be explored by the ship operators and the seagoing unions is productivity improvement. If American merchant seamen are to receive substantially greater compensation than their foreign

counterparts, then American seamen should be at least as productive in their work efforts. Cooperation is required of both the seagoing personnel and the shipping companies in this endeavor but there is room for innovation and improvements. Even though it would be desirable for ship operators to compete without ODS, it is not possible at the current time. It may be possible in the future. Until that day comes, either ODS or increasing productivity is a necessity.

2. Cargo Preference

As currently proposed in the Competitive Shipping and Shipbuilding Act of 1983, cargo preference is truly a political impossibility. Even though most of the shipbuilders and ship operators agree and favor this proposal, American shippers' groups present strong, valid opposition. Just as the ship operators do not desire to be responsible for subsidizing the shipbuilders, U.S. shippers are adamant that they should not be responsible for subsidizing both the shipbuilding and the ship operating industries.

As modified by the revised submission of H.R.-6222, the inclusion of tax credits to shippers, importers, and exporters would offset this substantial increase in transportation costs and transfer the burden of paying for cargo preference to the taxpayers. Proponents argue that revenues resulting from the expected increase in employment and corporate activity in the shipping and shipbuilding

industries would completely, or nearly so, offset the loss of Treasury funds resulting from the tax credit. [34]

In the long run, the above argument may be valid. Ship operators will, however, seek to maximize their profits with existing assets before investing heavily in high-cost new construction projects from U.S. shipyards. There is no guarantee that there would even be enough shipping assets available to carry the cargo reserved for U.S.-flag vessels. With the reserved cargoes being primarily bulk products, the owners who operate foreign-flag vessels, those of the Effective United States Control (EUSC), would be heavily affected. These EUSC shipowners, like the shipper's associations, strongly oppose cargo preference [39]. Any compromised version of the H.R.-6222 would probably include provisions for re-flagging of some of the EUSC vessels. The net result would still be limited shipbuilding orders, and therefore, the primary goals of any cargo preference legislation carry with them no guarantees of help for American shipyards. In any event, ships utilized to carry this cargo would stress economic efficiency, not military usefulness.

Cargo preference might be essential in the future, primarily in response to efforts of Third World shipping countries in implementing the UNCTAD code for liners. In this regard, bilateral cargo sharing agreements may become more common, and necessary in the future. Therefore, cargo

preference actions may be absolutely necessary and should not be eliminated from consideration.

3. Direct Government Procurement

This option is currently authorized in law. [6] It is attractive in that it could provide exactly the numbers and types of vessels required to support the nation's strategic sealift requirements. At the same time, vessels might be procured that would serve the economic shipping requirements. This is the only option that addresses the shipping and sealift requirements, the shipbuilding industrial base requirements as set forth in the SYMBA study, and guarantees ships for the U.S. merchant marine. Based on the cost estimates provided in the Congressional Budget Office study, this option would be considerably more cost effective than cargo preference legislation.

In retrospect, the U.S. maritime industries have been in a continual state of decline since well before the turn of the century, except for periods immediately following World War I and World War II. During those wars, it was massive government shipbuilding programs that reestablished the U.S. merchant marine. In fact, direct procurement has been the only successful means found in this century for stimulating U.S. merchant shipping. [2:77]

The advantage of direct government procurement would be that shipping assets would exist to carry freight, even

reserved freight, and hopefully the competition for that cargo would help in keeping shippers' costs to a minimum.

C. REVITALIZING THE MERCHANT MARINE

Policy makers must break with tradition. The history and current trends of our merchant marine indicate that past policies have not been totally effective at even maintaining an adequate U.S.-flag fleet. Therefore, the policies regarding our merchant marine need to be changed and there are several important distinctions that need to be made.

1. Shipbuilding versus Ship Operating

The merchant marine industries of shipbuilding and ship operating, although by their very nature related, are two distinctly separate industries. Unfortunately shipbuilders have priced themselves out of the market with commercial shipowners. None of the commercial ship operators that were interviewed in gathering information for this thesis indicated that they had any plans for new construction with U.S. shipyards. On the subject of building in foreign yards, several representatives indicated that new construction orders might then be considered.

The merchant marine will not grow at all unless the opportunity to foreign-build exists. This means then that U.S. shipyards will have to survive based on Navy ship construction orders and the few commercial orders that can be expected to support the Jones Act trades and the very specialized construction orders. Any further ship orders

that might be placed in order to maintain a shipyard capability to construct twenty vessels per year will likely have to come directly from the government.

2. Commercial versus Military Usefulness

With the expanding technology of automated ship propulsion and non-self-sustaining ship loading and unloading techniques now being utilized by nearly all commercial carriers in both liner and bulk trades, the gap between commercially efficient vessels and those that are militarily useful is growing wider. No longer is the sole consideration just numbers of ships.

Economic efficiency is and must be the primary consideration of any private commercial shipping enterprise in today's shipping market. Therefore, the formerly single problem of having enough ships is today a dual problem: having enough ships and of the right type.

It must be remembered that the merchant marine has two primary objectives. One is to carry a substantial portion of the nation's commerce and the other is to provide a military auxiliary in time of necessity. While 200,000 DWT tankers may not be militarily useful, their continued operation in time of crisis to help sustain the economic aspect of our national security is essential. The same is true of the large bulk carriers and even containerships. Our policy makers should not omit the importance of these U.S.-flag vessels and even the EUSC, foreign-flagged vessels.

Their continued operation under any flag is vital in order to sustain the flow of raw materials and oil needed to continue the nation's economic security.

In order to reconcile both commercial and military objectives, what is needed is research and development programs that would devise equipment and plans that could enable the speedy conversion of these commercial vessels to fulfill a military support role. Efforts of the Navy and industry in the development of sea-sheds and flat-racks is an example of a step in the right direction. The Navy conversion of the eleven TACS crane ships is likewise an essential element in these plans. These programs only stress the use of modern containerships. The oil and bulk vessels have similar conversion possibilities that need to be developed. As much as military planners desire to have militarily useful vessels of the self-sustaining type, every effort should be made to make the best possible use of the vessels that the commercial operators have to offer.

Along these lines, commercial operators who were interviewed, including an EUSC bulk oil operator, expressed a keen desire and willingness to assist the government in developing equipment for use in enhancing their vessels' military utility. At the same time, most of these businessmen expressed a desire to know exactly what the military's needs are. They want to know how they can help. It was

apparent that they understand their responsibilities in acting as a military auxiliary and are willing to respond. The question is "How?".

The answers to these questions should be provided by the Department of Defense and the Maritime Administration. As mentioned in Chapter VI, MARAD has apparently lost its promotional influence, particularly with the ship operators. Even the Navy has begun to take action independent of MARAD in its efforts to upgrade the Ready Reserve Force. The time is right for a change in the government's maritime support organizations. The current proposal of a Maritime Redevelopment Bank may provide an excellent vehicle to accomplish this change.

With a Maritime Redevelopment Bank in existence, run by businessmen, economical ship designs that incorporate both military defense features and commercial efficiencies might be researched. If these ships were then constructed in U.S. shipyards on a direct government procurement basis, they might subsequently be released to the Redevelopment Bank to manage for chartering or holding in reserve. The result would be a private, for-profit corporation operating a business with assets being provided by the government.

With MARAD continuing to perform necessary statistical analysis and specific administrative program management, the new Maritime Redevelopment Bank could be chartered to perform the vital research, development and

maritime promotional activities necessary to revitalize the U.S. merchant marine. An additional benefit would be that commercial maritime industries would be working with other businessmen, not government bureaucrats. The flow of information might be enhanced both ways, while at the same time serving the economic and national defense needs of the nation.

3. Summary

> "There are three elements of a defense posture in my mind that make sense: one, the capability of building and repairing ships; two, the capability of controlling them through U.S.-flag, and; three, having American citizen crews onboard." [36]

> "...As a part and parcel of maintaining an Army, a Navy, an Air Force, with all the capabilities of defending ourselves, but also when the need be carrying whatever battle to fight on distant shores rather than our own shores, one essential element to that is merchant ships for logistics support." [38]

These comments by both shipbuilding and ship operating representatives outline the basic elements that incorporate the merchant marine into the national security of the nation. The fact remains that the requirements that would be placed upon the U.S. merchant marine industries in time of mobilization cannot be fulfilled with the assets currently available. Not only will military shipments be required, but shipping to maintain the economic security of the nation will need to be maintained as well.

In order to be able to accomplish these missions, the U.S. merchant marine must be revitalized. The only means to achieve this is to build ships of the type and number

that would be required. The extent to which these ships might be economically efficient would further enhance private investment, even if only in operation through chartering of government procured vessels. More ships will provide increased strategic and economic shipping tonnage as well as provide an increased pool of mariners to man the new vessels as well as those held in reserve. Even foreign-built vessels would provide valuable billets for U.S. mariners that otherwise might not exist.

Realizing that these maritime industries are private enterprises is one aspect that always must be remembered by legislators. The fact remains that these same enterprises also are a vital element of the nation's security. What needs to be remembered is that the cost of building and maintaining the merchant marine for national defense purposes is one of the costs of national security [34]. The economic and national security impacts of any legislation regarding the merchant marine deserves careful, deliberate consideration.

The options and proposals currently before Congress provide for many policy objectives. But what is the national maritime policy? Is it peacetime economic shipping or the providing of an adequate U.S. shipping and shipbuilding base for national security? This question must be answered now for the effects of any policy changes are not immediately measurable.

The choice should be clear. A carefully planned government shipbuilding program is necessary to meet the present and future planned sealift requirements. At the same time, private investment needs to be encouraged. Every advantage possible must be granted to U.S. ship operators.

LIST OF REFERENCES

1. Bess, David, Marine Transportation, The Interstates Printers and Publishers, Inc., Danville, Ill. 1976

2. Congress of the United States Congressional Budget Office, U.S. Shipping and Shipbuilding: Trends and Policy Choices, U.S. Government Printing Office, Washington D.C., August 1984.

3. U.S. Department of Justice, The Regulated Ocean Shipping Industry: A Report of the U.S. Department of Justice, U.S. Government Printing Office, Washington D.C., 1977.

4. Frankel, Ernst G., Regulation and Policies of American Shipping, Auburn House Publishing Co., Boston, 1982.

5. Merchant Marine Act of 1920, 41 STAT 988, Chapter 250, approved June 5, 1920, as ammended by the 96th Congress.

6. Merchant Marine Act of 1936, as ammended through the 96th Congress, January 1, 1981, Title I Section 101.

7. McMahon, Christopher J., Collision Cource With Disaster (The U.S. Merchant Marine in the 1980's), American University, Washington D.C., December 1983.

8. Heine, Irwin M., The United States Merchant Marine-A National Asset, National Maritime Council, Washington D.C., July 1983.

9. Jantzer, Gerald R., Bread Upon the Waters: Federal Aids To The Maritime Industries, The Brookings Institute, Washington D.C., 1975.

10. U.S. Department of Commerce, MARAD '79, The Annual Report of the Maritime Administration, 1979

11. U.S. Department of Transportation, A Statistical Analysis of the World's Merchant Fleets, as of 1 January, 1983, Maritime Administration, June 1984.

12. Beargie, Tony, "No New Policy From Reagan", American Shipper, Vol. 26 No. 10, October 1984.

13. Brennan, Peter J., "The Financing of Shipping", Marine Engineering/Log, May 1982

14. "Legislative Developments", 1981 Annual Report, Shipbuilders Council of America, Washington, D.C., 1982.

15. U.S. Department of Transportation, MARAD '82, The Annual Report of the Maritime Administration, February 1984.

16. "Ocean Shippers' Antitrust Measure Clears", Congressional Quarterly Weekly Report, Vol.42, No. 10, March 10, 1984. Congressional Quarterly, Inc., Washington D.C.

17. "Farewell U.S. Flag", Fairplay International Shipping Weekly, London, England, 4 August 1983.

18. Alden, John D, Commander, U.S. Navy (Ret), "U.S. Navy Shipbuilding", Marine Engineering/Log Yearbook Issue, June 15, 1984.

19. 1981 Annual Report, Shipbuilders Council of America, Washington, D.C., March 1982

20. "U.S. Maritime Policy - Lewis' Seven Point Plan - It Can't Please Everyone", Fairplay International Shipping Weekly, London, England, 17 June 1982.

21. Porter, Michael, Competitive Strategy, Collier Macmillan Publishers, London, England, 1980.

22. Boyes, Jane R.C., "Some Fresh Initiatives May Help U.S. Carriers", Containerization International, August 1982.

23. Boczek, Boleslaw A., Flags of Convenience, an International Legal Study, Harvard University Press, Cambridge, Mass., 1962.

24. VADM William H. Rowden, Commander, Military Sealift Command, remarks made in a speech before the National Defense Transportation Association, Annual Forum, (26 September 1984)

25. Mariaschin, Daniel S., "Defense Trends: Fast Sealift Ship Algol Passes Reforger Test", Navy Times, 34th year, No. 1, 22 October 1984.

26. Otterberg, Carl, Maritime Administration Western Region, interview conducted in San Francisco CA, 28 August 1984.

27. VADM T.J. Hughes, USN, Deputy Chief of Naval Operations for Logistics, OP-04, in a talk delivered at the Naval Postgraduate School, Monterey, California, 01 November, 1984.

28. "Farewell U.S. Flag", Fairplay International Shipping Weekly, London, England, 4 August 1983.

29. Stevens, Ted, U.S. Senator of Alaska, in an amendment to Senate Bill S-1234, submitted 29 June 1984.

30. U.S. House of Representatives, Subcommittee on Merchant Marine Affairs, Subcommittee Draft of H.R.-3399, the Maritime Redevelopment Bank of the United States, dated 12 June 1984.

31. Center for Naval Analysis, Defense and Economic Aspects of H.R.-1242, (Competitive Shipping and Shipbuilding Act of 1983), CNR 62, Vito R. Milano and others, Alexandria, Virginia, June 1983.

32. "Congresswoman Boggs Again Proposes Bulk Cargo Legislation", Shipyard Weekly, Shipbuilders Council of America, Washington, D.C., February 10, 1983 - No. 6.

33. General Accounting Office, Economic Effects of Cargo Preference Laws, GAO/OCE-84-3, a report to the Chairman, Committee on Merchant Marine and Fisheries, House of Representatives, Washington, D.C., 31 January 1984.

34. "Another Bill Shaped to Help U.S. Bulk Fleet", dateline Washington, D.C., Journal of Commerce, Todd Shipyards Corporation, Thursday, September 20, 1984.

35. Cople, Gerald M., Vice President and General Manager North America Pacific Division, SEA-LAND Service, Inc., remarks made in a speech before the National Defense Transportation Association, Annual Forum, 26 September 1984.

36. Hallett, Fred N., Vice President-Finance, National Steel and Shipbuilding Company, private interview held in San Diego, California, 28 September 1984.

37. Maddox, John H., General Manager, Western U.S., SEA-LAND Service, Inc., private interview held in Oakland, California, 26 September 1984.

38. Murray, Robert, Matson Navigation, private interview held in San Francisco, California, 25 September 1984.

39. Wyman, Thomas S., Manager, Maritime Relations, CHEVRON Shipping Company, private interview conducted in San Francisco, California, 25 September 1984.

40. Knee, Richard, "And Now, the 21-Man American Containership", American Shipper, Vol.26 No.11, November 1984.

41. Magnier, Mark, "30,000 Jobs Cut Over 22 Years" American Shipper, Vol.26 No.11, November 1984.

INITIAL DISTRIBUTION LIST

		No. Copies
1.	Defense Technical Information Center Cameron Station Alexandria, Virginia 22314	2
2.	Defense Logistics Studies Information Exchange U.S. Army Logistics Management Center Fort Lee, Virginia 23801	1
3.	Library, Code 0142 Naval Postgraduate School Monterey, California 93943	2
4.	Department Chairman, Code 54 Department of Administrative Sciences Naval Postgraduate School Monterey, California 93943	1
5.	Asst. Prof. Dan C. Boger, Code 54Bk Department of Administrative Sciences Naval Postgraduate School Monterey, California 93943	2
6.	LCDR Mark H. Lepick, Code 54 L1 Department of Administrative Sciences Naval Postgraduate School Monterey, California 93943	1
7.	Commander Military Sealift Command (Attn: CDR V. Curry (M-1)) Washington, D.C. 20390	1
8.	LCDR Ronald C. Hessdoerfer c/o Executive Officer USS JUNEAU (LPD-10) FPO San Francisco, California 96669	2
9.	Mr. Thomas S. Wyman Chevron Shipping Company Manager, Maritime Relations 555 Market Street San Francisco, California 94105	1

10. Mr. John H. Maddox 1
SEA-LAND Service, Inc.
General Manager, Western U.S.
One Kaiser Plaza, Suite 2150
Oakland, California 94612

11. Mr. Fred N. Hallett 1
National Steel and Shipbuilding Co.
Vice President-Finance
P.O. Box 85278
Harbor Drive and 28th Street
San Diego, California 92138

12. Mr. Carl Otterberg 1
Maritime Administration, Western Region
211 Main Street, Room 1112
San Francisco, California 94105

13. Mr. Bob Murray 1
Matson Navigation Co.
333 Market Street
San Francisco, California 94105

13537 5

211794

Thesis
H5238 Hessdoerfer
c.1 Maritime options for the future-the means to revitalize the U.S. merchant marine.

thesH5238
Maritime options for the future :
3 2768 001 91921 0
DUDLEY KNOX LIBRARY